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INSTITUTE FOR DEFENSE ANALYSES

## **Why Nations Differ in Military Skill (And How That Should Affect U.S. Defense Planning)**

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## **PREFACE**

This research was conducted under the Independent Research Program of the Institute for Defense Analyses.

The authors owe thanks to several people who generously assisted our efforts. Prof. Herbert K. Tilemma of the University of Missouri made available his dataset on foreign military interventions. Prof. Patrick J. McGowan of Arizona State University made available his data on coups. Ms. Mary D. Hinkle, a government specialist on China, made many helpful suggestions in our research on the scholarship on Chinese civil-military relations. Prof. Stephen D. Biddle of the University of North Carolina, adjunct member of the IDA staff, and our co-investigator in much of the work that this paper uses as its point of departure, reviewed our research design and suggested many improvements. Mr. Michael Leonard at IDA reviewed the draft paper and also made suggestions for improvements. Thanks are also due to Ms. Shelly D. Smith and Ms. Burnette A. Aylor of the IDA staff for their assistance in the editing and production of the paper.

The authors alone are responsible for any errors that remain.



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## EXECUTIVE SUMMARY

A consistent recent theme sounded by defense policymakers and commentators is the difficulty of planning under conditions of strategic uncertainty. The uncertainty confronting defense planners is said to stem in substantial part from two causes, often thought to interact. The first is the possibility that sustained economic growth in developing countries may permit significant increases in defense spending and human development over the next 15 to 25 years. For example, substantial growth in incomes and literacy occurred in parts of East Asia over the past three decades. This has led many analysts to speculate that similar gains may occur or continue in countries such as China. Such sustained growth invested in military budgets could, the argument goes, result in the emergence of one or more regional powers or even "near-peer" competitors to the United States in the second decade of the 21<sup>st</sup> Century. How might these new powers arise? Through the proliferation of advanced technology and weapons systems, goes the argument. Thus the second uncertainty, the degree to which such proliferation will occur, is related to and interacts with the first.

Some of the concerns about the spread of advanced technologies center on the acquisition by potential adversaries of nuclear, biological, or chemical weapons, and/or the use of such weapons or other exotic technologies for terrorist attacks or asymmetric counter-value strategies to deter the United States from acting in regional conflicts. But the primary concern regarding arms transfers centers on their potential for dramatically improving the conventional military capability of potentially aggressive or destabilizing regional actors. The Secretary of Defense has stated that the ability to defend key allies and regions against this threat is and will remain one of the highest American defense imperatives over the next 15 to 25 years. So if it is true that access to better weapons automatically translates into improvements in military capabilities, our security strategy may be at risk over the mid- to long-term future.

Taken together, the two sources of uncertainty seem to pose a double dilemma for defense planners. Economic performance in the developing world (and concomitant improvement in human development) has been highly variable over the past 30 years, but was quite high over that period in a number of countries. In addition, the number of sources of modern weapons and military technology is increasing. The confluence of these trends has led many to conclude that (1) it is impossible to characterize meaningfully the future capabilities of potential adversaries, but (2) the potential for *at least some* of them to make dramatic improvements in conventional military capabilities (because they will be able to afford them) cannot be ruled out, and therefore (3) the U.S. should pursue prophylactic policies, especially in the form of robust modernization, aggressive pursuit of advanced technologies, and controls on technology and arms transfers.

The syllogism in the preceding paragraph may, however, rest upon two questionable assumptions. The first is that possession of advanced weapons leads automatically to improved military capability. Ongoing research at the Institute for Defense Analyses suggests a different relationship: that user skill and operational doctrine interact strongly with weapons technology, and that skill levels therefore profoundly affect combat outcomes. If true, then to increase one's capability, it is not enough simply to be able to acquire advanced weapons—militaries must also be able to develop and maintain high skill levels. In addition, the demonstrated robustness of the skill-technology relationship leads us in turn to question the second basic assumption posited above, i.e. that increased capital and human resources equals increased capability. If military skill is indeed largely a matter of resources invested over some time period, then given a decision to do so and sufficient resources, any government can make substantial improvements in its military's skill, especially over the mid to long term. But based on the preliminary research presented here, we believe there may be important systemic impediments in many nations that will retard or frustrate their attempts to translate resources into improved military skill. Moreover, because these impediments are a function of the fundamental nature of systems of governance and cultural norms, they are extremely difficult to change by policy and tend to be stable over even long periods of time. These traits are present in many of our potential adversaries. If our hypothesis is

*true, it may be the case that future threat levels can in many cases be meaningfully predicted more accurately and may be less severe than currently believed.*

We hypothesize that two factors in particular affect a country's ability to attain and sustain military skill and that these factors operate largely independent of resources and deliberate policy. The factors are civil-military relations and a phenomenon called "cultural lag."

Regarding the first, *poor* civil-military relations limit the types and intensity of military training that the government is willing to permit. To sustain their hold on power, threatened regimes also often feel compelled to intervene detrimentally in military promotions and operational planning. As a result, militaries that are distrusted by their regimes often manifest duplicate chains of command, lack horizontal and inter-service communication, practice little or no joint training, and exhibit hyper-centralized decision-making. Each of these retards realistic training at high tempos, and acts as brakes on operational synchronization.

The second factor, "cultural lag," finds its genesis in the differences in culturally based norms of interpersonal behavior in organizations between the designers of modern advanced weapons systems and their users. Most advanced weapons systems (and here the word "systems" should be emphasized) are designed in "Western" countries. Their designs include the designers' culturally based expectations about the behavioral norms that will predominate in the organizations in which these assets will operate. When these weapon systems are exported to and operated by countries that do not share the same culture-based organizational behavior norms, a mismatch occurs. This mismatch has a tangible and substantial detrimental effect on operators' ability to train and utilize the *system* (especially on their ability to train intensely or actually employ the system on a sustained basis). This detrimental effect will be increasingly intensified as technology links individual weapons systems together into *systems-of-systems*, thereby intensifying system interdependence and training and operational complexity.

We tested for this detrimental effect in an examination of 457 military operations that have occurred since 1945. We controlled for disparity in economic resources and human capital between combatants, and found that there were differences in performance

(defined as fatalities suffered per day) between militaries in countries with good vs. bad civil-military relations and with Western vs. non-Western organizational cultures.

Why should poor civil-military relations and cultural lag matter to defense planners? Because both are enduring national attributes that change only slowly and are not susceptible to direction by policy, i.e. a government cannot legislate trust between military and civilian officials. Also, many developing nations (including many of our potential adversaries) have one or the other characteristic, so even if they grow steadily richer and can find willing weapons suppliers, their military capabilities will probably remain low. So if our hypothesis is true, it has several interesting implications for defense planning and policy.

### **PLANNING UNCERTAINTY AND SIZE OF THE THREAT**

The conventional wisdom is that the size of tomorrow's defense challenges is extremely uncertain. That may be incorrect. The size of tomorrow's threats may be easier to forecast—and smaller—than generally supposed.

Most of the nations commonly mentioned as potential security concerns for the future have either bad civil-military relations or very non-Western norms of organizational culture or both. If our hypotheses are correct, these characteristics may act as significant brakes on their ability to improve military skills and thus generate combat power. This does not gainsay the possibility that some of these nations may have quite large military establishments. Economic growth may even permit them to have sizable quantities of advanced equipment. And the human raw material available for military service may be better educated. But their ability to integrate those assets into sustained, large-scale military operations may be quite limited. Nations limited in this way will be at a significant military disadvantage vis-a-vis skilled opponents, even skilled opponents equipped with somewhat less modern systems.

### **POLICIES ON ARMS TRANSFER AND CONTROL**

If our hypotheses are correct, arms transfers to developing nations are probably much less likely to cause significant shifts in regional conventional arms balances than commonly supposed. (Again, as stated previously, we are not asserting that this is true

about transfers of nuclear, biological, or chemical arms or technologies.) Many recipients will simply lack the ability to fully utilize the modern weapon system capabilities. So to the extent that regional powers make realistic assessments of their neighbors' military capability, arms races will not automatically be kindled by the introduction of even advanced systems into a region. Nor would the transfer of such weapons to a potentially hostile power necessarily increase the risk to our allies in the region or to our forces should we need to operate there.

## **NET ASSESSMENT TECHNIQUES AND INTELLIGENCE REQUIREMENTS**

Most net assessment techniques are of the "bean-counting" variety, focusing on the numbers and technical characteristics of the two sides' weapons. That's also true of intelligence reporting. If our theories are correct, this approach may result in serious overestimations of the military effectiveness of potential enemies. As we have argued, the possession of the material products of technology should in no way imply that these products could be used effectively. From our perspective, this approach to net assessment focuses on the wrong level of analysis and, in so doing, confuses latent weapons capability with military effectiveness. This is especially true of assessments at the theater, force-on-force levels that drive much defense programming (and hence defense budgets). The longer, more wide-ranging and more intense a conflict is, the more the effects discussed in this paper will become apparent.

In our ongoing work on skill, technology, and combat outcomes, we have suggested it is imperative that the new generation of combat assessment models now under development include a proper comprehension of how skill and technology interact to produce real combat outcomes. If the hypotheses we explore here are correct, it may be equally important that tools used to forecast future capabilities of foreign forces incorporate civil-military relations and culture lag as factors. And it will be important for the Intelligence Community to have the capability to collect and analyze indicators related to those factors. Failing to do so may result in gross overestimates of the capabilities of potential opponents.



## 1. INTRODUCTION

A consistent recent theme sounded by defense policymakers and commentators is the difficulty of planning under conditions of strategic uncertainty. As Secretary of Defense Cohen wrote in the introduction to the Quadrennial Defense Review (QDR): “[W]hile the prospect of a horrific, global war has receded, new threats and dangers—harder to define and more difficult to track—have gathered on the horizon.”<sup>1</sup>

The uncertainty confronting defense planners is said to stem substantially from two causes, often thought to interact. The first is the possibility that sustained economic growth in developing countries may permit significant increases in defense spending and human development over the next 15 to 25 years. Observing the substantial growth in incomes and literacy that occurred in parts of East Asia over the past three decades, many analysts speculate that similar gains could occur in countries such as China. Such sustained growth invested in military budgets could, the argument goes, result in the emergence of one or more regional powers or even “near-peer” competitors to the United States in the second decade of the 21<sup>st</sup> century.

The second cause of uncertainty is the proliferation and sale of militarily useful technology and advanced weapons systems. The fear, again as summarized in the QDR, is that such transfers could shift the military balance in key regions or raise the cost of future U.S. military operations, especially

...in the Middle East, where the proliferation of advanced technologies provides rogue states such as Iran with increasingly sophisticated means to threaten regional security, and in East Asia, where such proliferation threatens to upset delicate military balances in a region rife with long-festered territorial disputes. The civilian marketplace is developing technology that has dual civilian and military applications, and this makes it difficult to slow the diffusion of technology to potentially hostile state and non-state actors. Nations such as the United States that

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<sup>1</sup> William S. Cohen, Secretary of Defense, *Report of the Quadrennial Defense Review* (Washington: Department of Defense, May 1997), Introduction (from online version at <http://www.defenselink.mil/pubs/qdr/>). Hereinafter cited as QDR Report.

embed such technology in their military forces could be particularly vulnerable to countermeasures if this challenge is not fully considered in system designs.<sup>2</sup>

Some of the concerns about the spread of advanced technologies center on the acquisition by potential adversaries of nuclear, biological, or chemical weapons, and/or the use of such weapons or other exotic technologies for terrorist attacks or asymmetric counter-value strategies to deter the United States from acting in regional conflicts by threatening large-scale loss of American lives. Those are troubling possibilities and are already properly the subject of study and analysis.<sup>3</sup> But the primary concern regarding arms transfers centers on their potential for dramatically improving the *conventional* military capability of potentially aggressive or destabilizing regional actors. The Secretary of Defense has stated that the ability to defend key allies and regions against this threat is and will remain one of the highest American defense imperatives over the next 15 to 25 years.<sup>4</sup>

[W]e will continue to confront a variety of regional dangers. Foremost among these is the threat of coercion and large-scale, cross-border aggression against U.S. allies and friends in key regions by hostile states with significant military power.

So if it is true that access to better weapons automatically translates into improvements in military capabilities, our security strategy may be at risk over the mid- to long term.

Taken together, the two sources of uncertainty seem to pose a double dilemma for defense planners. As will be seen later in this paper, economic performance in the developing world (and concomitant improvement in human development) has been highly variable over the past 30 years, but has been quite high over that period in a number of countries. In addition, the number of sources of modern weapons and military technology is increasing. The confluence of these trends has led many to conclude that (1) it is impossible to characterize meaningfully the future capabilities of potential adversaries, but (2) the potential for *at least some* of them to make dramatic

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<sup>2</sup> Ibid., Section 2.

<sup>3</sup> Nevertheless, for reasons discussed in Chapter 2, weapons of mass destruction, terrorism, and asymmetric comparative threats fall outside the scope of the argument we present in this paper.

<sup>4</sup> Ibid.

improvements in conventional military capabilities (because they will be able to afford them) cannot be ruled out, and therefore (3) the U.S should pursue prophylactic policies, especially in the form of robust modernization, aggressive pursuit of advanced technologies, and controls on technology and arms transfers.

### QUESTIONABLE ASSUMPTIONS

The syllogism in the preceding paragraph may, however, rest upon two questionable assumptions. The first is that possession of advanced weapons leads automatically to improved military capability. Ongoing research at the Institute for Defense Analyses suggests a different relationship: that user skill and operational doctrine interact strongly with weapons technology, and that skill levels therefore profoundly affect combat outcomes. If true, then to increase one's capability, it is not enough simply to be able to acquire advanced weapons—militaries must also be able to develop and maintain high skill levels. (Indeed, in many cases, skill development should come first, for it will provide substantial improvements in capability even with existing weapons.) In addition, the demonstrated robustness of the skill-technology relationship leads us in turn to question the second assumption posited above, i.e., that increased capital and human resources automatically equals increased capability. If military skill is indeed largely a matter of resources invested over some time period, then given a decision to do so and sufficient resources, any government can make substantial improvements in its military's skill, especially over the mid to long term.

The purpose of this paper is to examine the validity of this second assumption. Based on the preliminary research presented here, we believe there may be important systemic impediments in many nations that will retard or frustrate their attempts to translate resources into improved military skill. Moreover, because these impediments are a function of the fundamental nature of systems of governance and cultural norms, they are extremely difficult to change by policy and tend to be stable over even long periods of time. These traits are present in many of our potential adversaries. If our hypothesis is true, *it may be the case that future threat levels can in many cases be meaningfully predicted with greater accuracy and may be less severe than currently believed.*

But before beginning the analyses of how and why nations may differ in their ability to develop military skill, we need to summarize briefly our ongoing work (undertaken with our colleague Stephen Biddle) on how skill affects combat outcomes.<sup>5</sup>

## THE IMPORTANCE OF SKILL

Evidence is mounting that the *interaction* between technology and its users' *skills* profoundly influences real combat outcomes. Technology (or applied technology in the form of weapons effectiveness) does not in and of itself determine combat results. This is because technology's effects differ radically depending on the countermeasures adopted by its targets—especially how well they use tactical counters. (For ground combat, for example, these include cover, concealment, dispersion, suppressive fire, combined arms, and independent maneuver by small units.)

Survival on the modern battlefield requires the ability to reduce exposure to hostile firepower. Properly implemented, tactical countermeasures are extremely effective at this. Correctly dug defilade vehicle fighting positions, for example, can negate an opponent's advanced sights and long-range gunnery by keeping friendly tanks below grade until the opponent is close. Suppressive fire can reduce hostile firing rates by a factor of 10 or more even if it kills no targets directly. Attackers able to use cover and concealment effectively often can advance to within a few hundred meters of a typical defensive position without extended exposure to defensive fires.<sup>6</sup>

But while such countermeasures are potentially very effective, they are often very difficult to implement properly and are getting more so all the time. To make the most of cover and concealment, for example, each small-unit commander must fashion unique

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<sup>5</sup> Readers who wish to know more about the ongoing work on skill-technology interaction and combat outcomes should consult Stephen Biddle, Wade Hinkle, and Michael Fischerkeller, "Skill and Technology in Modern Warfare," forthcoming in *Joint Force Quarterly* (Summer 1999). The results of the ongoing IDA research will be published shortly by the same authors in *Beyond Firepower: Including Skill and Operational Sophistication in Combat Modeling*, IDA Paper P-3477, (Alexandria, VA: Institute for Defense Analyses forthcoming). Results to date were reported in "Modeling Skill-Technology Synergy in Combat Assessments," a paper presented at the 67<sup>th</sup> Symposium of the Military Operations Research Society, West Point, NY, June 23, 1999. The initial basis for this ongoing research can be found in Stephen Biddle, "Victory Misunderstood: What the Persian Gulf Conflict Tells Us About the Future of Conflict," *International Security*, 21, 2 (Fall 1996), pp. 139-179.

<sup>6</sup> Stephen Biddle, "The Past as Prologue: Assessing Theories of Future Warfare," *Security Studies*, 8, 1 (Fall 1998); idem., "Victory Misunderstood," op. cit., at pp. 166-9.

plans for movement and disposition based on the vagaries of local conditions. Troops cannot simply be laid out in standard, textbook formations and marched toward the objective or be deployed in formulaic cookie-cutter defensive layouts. Proper use of suppressive fire requires very tight coordination between widely separated, moving units and multiple commanding officers. Since the pace of an assault varies unpredictably with terrain and enemy action, maintaining continuous suppression requires a complex combination of planning, adaptation, and communications between harried commanders at many different echelons. Dispersion and independent small-unit maneuver increase the number of independent decision-makers in any given organization. They also demand greater initiative and tactical judgment from junior leaders and make it harder for those leaders to see and communicate with their troops.

As the range and lethality of weapons has increased, so has the depth over which such techniques must be exercised. The advent of long-range weapons and airpower has extended the zone of maximum complexity from front-line units and their immediate supporting elements to, in some cases, entire theaters. But while this is an important change, it is one of degree, not kind. Traditional operational countermeasures employing cover, concealment, dispersion, suppressive fire, combined arms, and independent small unit maneuver still work by exploiting weaknesses of advanced technology. In particular, our ability to engage dispersed targets under cover is still dramatically lower than our ability to destroy massed armor in the open, and will be for some time to come.<sup>7</sup> What is changing is the difficulty of making the countermeasures work over the required span of space and time.

Militaries that can cope with such growing complexity are likely to see their vulnerability change little even as the nominal lethality and reach of modern weapons continue to grow. Militaries that *cannot* cope with such complexity are likely to see their vulnerability grow dramatically. Changing technology thus acts as a wedge by

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<sup>7</sup> For recent examples from Operation ALLIED FORCE, see Michael R. Gordon with Eric Schmitt, "War Games in Kosovo: Allies Seek, Serbs Hide," *New York Times*, April 7, 1999, p. 1, and Joseph Fitchett, "Escalation of Air War Underscores Its Flaws: Low-Tech Serb Tactics Stymie NATO Plan," *International Herald Tribune*, April 14, 1999, p. 1.

magnifying the consequences of skill differentials over time. *Absent a favorable skill overmatch, technology per se cannot be relied upon to produce Gulf War-like results in the future.*

If the skill-technology hypothesis is true, it has two profoundly important implications for regional balance assessment and defense planning:

1. Knowing a military's skill level is critical to predicting its current capability (in many cases more important than knowing about quantity and types of weapons).
2. Understanding how skill is developed is key to predicting future capability.

### **NATIONAL DIFFERENCES IN SKILL**

We hypothesize that two factors in particular affect a country's ability to attain and sustain military skill and that these factors operate largely independent of resources and deliberate policy. The factors are civil-military relations and a phenomenon called "cultural lag."

Regarding the first, *poor* civil-military relations limit the types and intensity of military training that the government is willing to permit. To sustain their hold on power, threatened regimes also often feel compelled to intervene detrimentally in military promotions and operational planning. As a result, militaries that are distrusted by their regimes often manifest duplicate chains of command, lack horizontal and inter-service communication, practice little or no joint training, and exhibit hyper-centralized decision-making. Each of these retards realistic training at high tempos, and acts as a brake on operational synchronization.

The second factor, "cultural lag," finds its genesis in the differences in culturally based norms of interpersonal behavior in organizations between the designers of modern advanced weapons systems and their users. Most advanced weapons systems (and here the word "systems" should be emphasized), are designed in "Western" countries.<sup>8</sup> Their designs include the designers' culturally-based expectations about the behavioral norms that will predominate in the organizations in which these assets will operate. When these weapon systems are exported to and operated by countries that do not share the same

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<sup>8</sup> The term is defined and the rationale for it discussed below.

culture-based organizational behavior norms, a mismatch occurs. This mismatch has a tangible and substantial detrimental effect on operators' ability to train and utilize the *system* (especially on their ability to train intensely or actually employ the system on a sustained basis). This detrimental effect will be increasingly intensified as technology links individual weapons systems together into *systems-of-systems*, thereby intensifying system interdependence and training and operational complexity.

Why should poor civil-military relations and cultural lag matter to defense planners? Because both are enduring national attributes that change only slowly and are not susceptible to direction by policy, i.e., a government cannot legislate trust between military and civilian officials. Also, many developing nations (including many of our potential adversaries) have one or the other characteristic, so even if they grow steadily richer and can find willing weapons suppliers, their military capabilities will probably remain low. Indeed, while it seems somewhat counterintuitive, the acquisition of ever more advanced weapons technologies by many developing nations may actually *decrease* their relative threat to regional stability and U.S. national security.

## **ORGANIZATION OF THE PAPER**

We have divided the discussion and testing of our hypotheses into three chapters. Chapter 2 briefly reviews the arguments by others regarding how economic growth and weapons proliferation may place US security at risk either directly or indirectly by promoting regional instability. It then more fully explicates the cause-and-effect mechanisms through which we hypothesize that poor civil-military relations and cultural lag lead to diminished military skill and hence capability. Chapter 3 presents our research design and some results from a large-*n* test of our hypotheses. Chapter 4 concludes with a discussion of the implications for both defense policy and planning.

## 2. FACTORS AFFECTING DEVELOPMENT OF SKILL

Measurements of the quantity and quality of weapons available to each side drive most orthodox combat capability assessment techniques. Orthodox assessment techniques intended to portray current regional balances do the same. Forecasts of future capabilities are also heavily influenced by assumptions about the availability of quantities of modern weapons (about which, more in a moment), but they also focus on the role played by economic and human development.

### ECONOMIC AND HUMAN RESOURCES

Since the advent of the modern state system, economic strength has been held to be an important indicator of potential to develop military capability.<sup>1</sup> Indeed, many consider that, since the beginning of industrialization, economic power has been the single most important leading indicator of future military power (and a decline in economic performance has been seen as a harbinger of a loss of military power).<sup>2</sup> Accordingly, since the end of the Cold War many have regarded the strong economic performance of some developing countries as harbingers of their future military capabilities.

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<sup>1</sup> For an early example of the argument, see Patrick Colquhoun, *A Treatise on the Wealth, Power, and Resources of the British Empire* (London: Joseph Mawman, 1815). For a treatment on the relationship between economics and military power in pre-industrial Europe, see John Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (London: Routledge, 1994).

<sup>2</sup> See, for example, Edward D. Mansfield, *Power, Trade, and War* (Princeton, NJ : Princeton University Press, 1994); Kenneth A. Schultz, *The Democratic Advantage: The Institutional Sources of State Power in International Competition* (Stanford, CA: Hoover Institution on War, Revolution, and Peace, Stanford University, 1996); Paul M. Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000* (New York: Random House, 1987); and John Zysman, *Power, Wealth, and Technology: Industrial Decline and American national Security* (Berkeley, CA : Berkeley Roundtable on the International Economy, University of California, 1990).

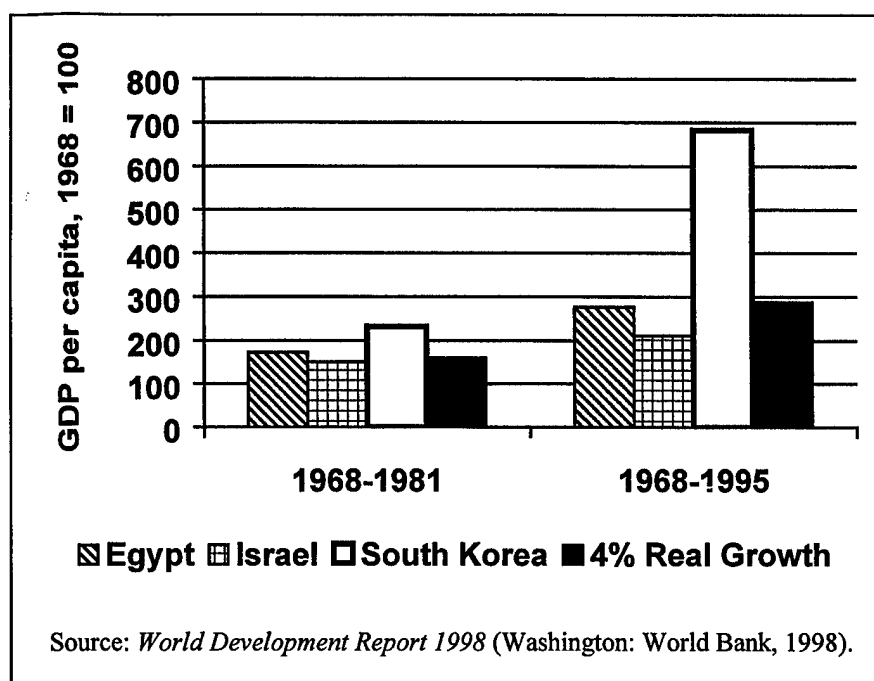


**Table 2-1. Variations in Economic Performance**

Category of country	GNP per capita, 1965-1990 <u>Average annual rate of change</u>	
	Worst average rate	Best average rate
<b>Low-income economies</b>	-2.4%	5.8%
<b>Lower-middle income</b>	-3-3%	8.4%
<b>Upper-middle income</b>	-3.0%	7.1%
<b>High-income economies</b>	-4.0%	6.2%
Source: <i>World Development Report 1992</i> (Washington: World Bank, 1992), Table 1.		

As Table 2-1 shows, economic performance among developing countries has been highly variable over mid- to long-term periods. Compounded over time, these rate differentials can produce astonishing differences in wealth between countries. For all lower-middle income economies, for example, the worst sustained performer (Nicaragua) had per capita real gross domestic product in 1990 that was only 40 percent of its real per capita product in 1965. The best sustained performer (Botswana) had per capita income in 1990 more than 8 times as large as in 1965.

This wide variance in mid- to long-term economic performance for individual countries is one reason that many feel the future military planning environment is so uncertain. Others, however, point to the fact that there have been at least some remarkable instances of sustained growth in past periods. They therefore posit that it is reasonable to assume that at least *some* developing countries (and by extension, countries that may figure in security calculations as friends or adversaries) will have high sustained growth over the next 15 to 25 years. For example, as shown in Figure 2-1, Israel's gross domestic product per capita more than doubled in real terms over a 27-year period beginning in 1965. Egypt's nearly tripled, while South Korea's increased by almost a factor of 7.

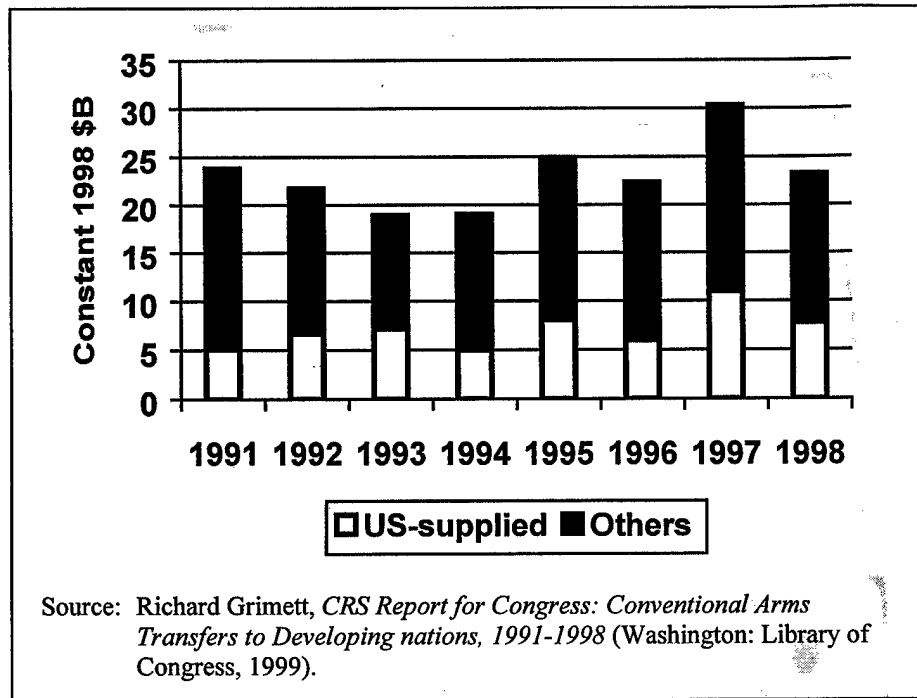


**Figure 2-1. Economic Performance of Selected Countries**

The planning concern regarding potentially strong economic growth in the developing world is that such growth will be translated into military spending in ways that permit single countries or groups of countries to field hardware inventories that rival our own. As Figure 2-2 shows, arms transfers to developing countries averaged \$23 billion annually in constant 1998 dollars from 1991 through 1998. That amount is a little more than 40 percent of the average spent annually by the Defense Department on all procurement during the same period (which was \$53 billion in constant 1998 dollars).<sup>3</sup> And the relative parity between the aggregate developing world and American weapons procurement is even greater than that since the arms transfer totals in Figure 2-2 do not include indigenous production, while DoD's totals include many non-weapons items. If any given developing country devoted just a pro rata share of increased GDP per capita to defense spending and if that country enjoyed just a 4 percent real rate of growth over the next 25 years, that country's defense spending could rise a total of 225 percent. If every

<sup>3</sup> Figures for 1991-1997 are from William M. Cohen, Secretary of Defense, *Annual Report to the President and the Congress* (Washington, Department of Defense, 1997). Figures on 1998 are from the DoD Comptroller's office, <http://www.dtic.mil/comptroller/FY2000budget/FY00P1U.pdf>, p. 4.

developing country did it, the aggregate spending in defense procurement would far outstrip DoD's planned procurement spending.



**Figure 2-2. Average Annual Arms Transfers to Developing Nations**

Of course, it has been argued that the ability to translate economic resources into a capability to utilize advanced weapons is heavily dependent upon human capital. On the importance of human capital, the Chairman of the Joint Chiefs of Staff, for example, wrote in *Joint Vision 2010*:

Attracting people with the intellectual tools, physical skills, and motivation to serve ... was among the foremost requirements in building a professional, robust and ready force. In the late 1970s, over 15 percent of our enlistees scored in the lowest category for military qualifications examinations. Today, less than 1 percent are in that category and over 90 percent of enlistees have graduated from high school.<sup>4</sup>

In theory (precisely the theory we intend to question in the next chapter), even militaries in poor countries could devote substantial financial resources to training and education of recruits and therefore overcome whatever disadvantage in human

<sup>4</sup> John M. Shalikashvili, Chairman, Joint Chiefs of Staff, *Joint Vision 2010* (Washington: Department of Defense, 1996).

development their underlying civilian economy and society have relative to developed nations. As Table 2-2 shows, much of the developing world has faced such a relative deficit in human resources in the past.

**Table 2-2. Variations in Human Development**

Category of country	Percentage of eligible school-age population enrolled in 1989	
	Secondary school	Tertiary education
Low-income economies	38%	2%
Lower-middle income	55%	17%
Upper-middle income	56%	17%
High-income economies	95%	42%
Source: <i>World Development Report 1992</i> , op. cit., Table 29		

But as was the case with national income, some developing countries *have* made substantial improvements in their level of human development over the past 25 years. As Figure 2-3 shows, both South Korea and Egypt improved the rate of female enrollment in secondary school from levels near that of low-income economies in 1970 to levels close to those in high-income economies by 1993.<sup>5</sup> In the dataset presented in Table A-1 we report a number of human development and economic resource indicators for use in testing of our hypotheses. Perhaps unsurprisingly, these human resource factors tend to be highly correlated with economic development. For example, the correlation between illiteracy and per capita income in our sample is  $r = -.645$  ( $p < .001$ ,  $n = 601$ ). The ability of at least some states to couple strong economic performance to human capital improvement buttresses the arguments presented by many that the next 20 to 30 years could well see the emergence of many new regional powers, if not in fact near-peer

<sup>5</sup> For countries in the developing world, rates of female educational enrollment substantially lag those of males, so raising female enrollment to high-income levels is an even more impressive achievement than simply raising the overall national average.

competitors to the United States. China and other nations in East Asia are often cited as candidates in this regard, as is India.<sup>6</sup> Essentially, many commentators feel that the amount of disposable income that developing countries can devote to weapons purchases is going to grow over time, as will their ability to use them.

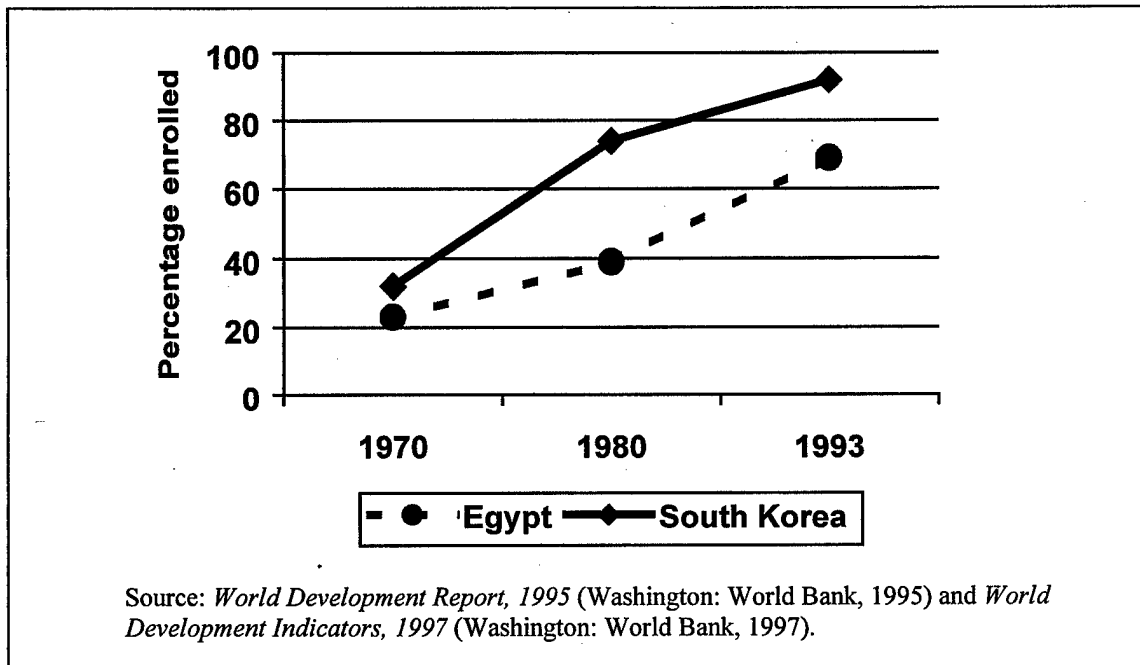


Figure 2-3. High-School-Aged Females in Secondary School

### Proliferation of Arms and Technology

There is a widespread belief that proliferation of advanced military technologies and weapons runs the risk of facilitating the rise of a near-peer competitor and promoting regional instability. It has been proposed that the rapid proliferation of highly sophisticated weapons to the Third World may foster militaristic tendencies and encourage national leaders to think of military, rather than political, means for resolving their disputes.<sup>7</sup> Seth Carus, for instance, argues that modern weapons are so highly

<sup>6</sup> See for example, Suisheng Zhao, *Dynamics of Power Competition in East Asia: from the Old Chinese World Order to Post-Cold War Regional Multipolarity* (London: Macmillan, 1998); and Robert A. Forczyk, "Emergent India and the Assessment of Third World Regional Powers in the Post-Cold War," Ph.D. dissertation, University of Maryland at College Park, 1993.

<sup>7</sup> See, for example, Charles Krauthammer, "Why We Must Contain China," *Time*, July 31, 1995, p. 72; National Panel on Conventional Arms Control, *Controlling the Conventional Arms Race* (New York:

capable that they will be inherently destabilizing because of their ability to decisively determine military outcomes.<sup>8</sup> In particular, Carus feels proliferation of command and control systems and other enabling technologies will intensify shifts in regional military power.<sup>9</sup> Steven Rosen agrees that such improved military capabilities could cause shifts in power balances, encouraging opportunistic regimes to capitalize on this advantage by settling an old score or seeking personal or national aggrandizement.<sup>10</sup>

Some analysts have argued that proliferation of advanced weapons systems will not necessarily lead to improved capabilities (and hence increased political instability) unless certain problems attendant to absorption of new technologies are overcome. For example, Geoffrey Kemp argues that recipient countries must solve what he calls the "back-end" problem of arms transfers—dependence on suppliers of platforms and technologies for infrastructure and support.<sup>11</sup> Christopher Parker views collaborative agreements that include co-development and co-production as one possible method to overcome these problems. (Without them, he argues, transfers of advanced systems may not increase capabilities.)<sup>12</sup> Michael Moodie extends this line of reasoning in observing that entire production processes are being shared today. He concludes, therefore, that in the future, buyers will place a greater emphasis on the transfer of intermediate technology

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United Nations Association, 1976), p. 6; and David Mussington, "Understanding Contemporary International Arms Transfers," *Adelphi Paper 291* (London: Brassey's, 1994).

<sup>8</sup> See W. Seth Carus, "Weapons Technology and Regional Stability," in *Arms Control and Proliferation in the Middle East and South Asia* (New York: St. Martin's Press, 1992), pp. 9-16, 10.

<sup>9</sup> Ibid.

<sup>10</sup> Steven J. Rosen, "The Proliferation of New Land-based Technologies: Implications for Local Military Balances," in Stephanie G. Neuman and Robert E. Harkavy, *Arms Transfers in the Modern World* (New York: Praeger, 1979), pp. 109-130, 115.

<sup>11</sup> Geoffrey Kemp, "Arms Transfers and the 'Back-end' Problem in Developing Countries," in Uri Ra'anani, Robert Pfaltzgraff, Jr., and Geoffrey Kemp, eds., *Arms Transfers to the Third World: The Military Buildup in Less Industrial Countries* (Boulder: Westview, 1978), pp. 264-275. Kemp also argues that if countries have sole dependency on a reliable supplier or are autarkic, the "back-end" problem is a non-issue.

<sup>12</sup> Christopher S. Parker, "New Weapons for Old Problems: Conventional Proliferation and Military Effectiveness in Developing States," *International Security*, 23, 4 (Spring 1999), pp. 119-147.

capable of generating “enabling technologies.” Those enabling technologies will in turn assist recipients in taking full advantage of the abilities of advanced weapons.<sup>13</sup>

### **The Skill Factor**

The cautionary notes sounded by some of the commentators just mentioned, however, mostly relate to the presumption that the problems that recipients may face with regard to absorbing advanced technology are largely a function of low human capital. The assumption that co-production and co-development can facilitate absorption is in reality an assumption that a lack of training and education is the only impediment to effective use of modern weapons systems. If indeed this is merely a matter of direct and indirect application of resources (the indirect application being that of devoting some resources to general or targeted improvement in human capital), then it may indeed be a slight impediment, at least for some developing countries.

Though most of the sources-of-national-power and arms-transfer literature fails to mention it explicitly, a military’s ability to “absorb” advanced technology is really one particular form of skill effect. Obviously, operators and support personnel must be trained on the new equipment. But successful absorption doesn’t stop there. Modern weapons operate as weapon *systems*, and so a complete factor-inputs to weapon-outputs system must be designed and implemented, and the personnel who will staff each part of the system must be trained. These various weapon systems must be meshed with operational doctrine and tactics and with specific operational plans, and the resulting aggregate integrated into a system-of-systems that supplies the ability to identify and engage targets, assess results, and plan next steps. This, as noted by some of the commentators cited above, requires additional enabling systems, which generate their own demands on training and operator skill (and in many cases these “operators” are highly trained staff specialists). As we have argued in our underlying work on the effect of skill on combat outcomes, the evidence indicates that a failure to achieve a high level of skill in *each* of these levels of system organization will lead to poor overall capabilities. Low-skill militaries, even if equipped with advanced weapons and facing opponents with inferior weapons, will thus perform poorly when confronting highly skilled enemies.<sup>14</sup> Put

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<sup>13</sup> Michael Moodie, “The Challenge of Technology Diffusion,” *Washington Quarterly*, 18, 2 (Spring 1995), pp. 183-202, 189.

<sup>14</sup> See the citations in footnote 5 in Chapter 1.

another way, transfer of advanced technology and weapons may have little influence on future regional balances and instability if recipients fundamentally lack the skill to conduct effective military operations.

This understanding of what skill is (the integration of individual performance, unit performance, and staff performance in a system of systems to reliably produce an intended effect) allows us to focus on what may be the key indicator of future military capability. An important question, then, as shown in Figure 2-4, is whether the only necessary and sufficient conditions for a country to develop and sustain high military skill levels are abundant resources and a will to do so. We hypothesize that there are, in fact, two additional necessary conditions: 1) the presence of good civil-military relations, and 2) congruence between the organizational expectations of the designers of equipment in inventory and the organizational norms of its users. And we note that these two conditions are not present in many of the developing countries that are today seeking advanced weapons systems. How we came to develop this hypothesis is the subject of the next section.

- **Amount of training *resources***
  - Financial, physical, technical
- **Amount of *human capital***
  - Personnel with educational pre-requisites for training
- ***Civil-military relations***
  - Does distrust cause government to intervene detrimentally in decisions on training or promotion?
- ***Organizational culture (culture lag)***
  - How well do the organizational norms of interpersonal interaction match those assumed in design of integrated, combined arms, system-of-systems?

**Figure 2-4. Hypothesized Determinants of Skill Attainment**

### **Civil-Military Relations**

The literature on civil-military relations has focused primarily on explaining why different patterns of relations emerge and the effect of such relations on a country's



propensity for war. Little if any attention has been given to the impact that civil-military relations can have on military readiness.<sup>15</sup> In the next section we offer some cause-effect arguments that speak to this important relationship.

### **Loyalty vs. Competence**

As Stephen Biddle and Robert Zirkle proposed in their seminal work, it seems reasonable to suppose that *poor* civil-military relations may manifest behavior and policy on the part of the government that systematically act to constrain a military's ability to attain and maintain skill. These constraints appear in many forms. If a country has poor civil-military relations, it is likely that political loyalty, rather than military competence, will be the dominant criterion for assignment and/or promotion. Leaders with tenuous holds on power have a propensity to name military officers loyal to them to command assignments regardless of their qualifications. Consequently, many of the best-qualified officers (by objective skill measures such as officer efficiency reports) may be excluded from command, lowering the average skill levels of commanders. And command tenure tends to be brief in these countries, limiting the learning curve for commanders and the ability of talented commanders to improve troop training and operational planning. Moreover, those skilled but less-than-loyal officers who do somehow manage to advance through the command hierarchy are likely to be purged, along with their staff.

Saddam Hussein's regime and its relationship with the Iraqi armed forces are stellar examples of these phenomena. Most commanders in Iraq's military and security forces are Tikriti (as is Saddam) and have been selected for their loyalty.<sup>16</sup> When the loyalty of a commander has been called into question, there has been no hesitation to purge him. In October 1998, 30 officers of the Hammurabi Division of the Republican Guard were reportedly executed for this reason. Similarly, about the time of Operation DESERT FOX at least five officers of the 11<sup>th</sup> Mechanized Division of the III Corps were

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<sup>15</sup> For a notable exception, see Stephen Biddle and Robert Zirkle, "Technology, Civil-military Relations, and Warfare in the Developing World," *The Journal of Strategic Studies*, 19, 2 (June 1996), pp. 171-212.

<sup>16</sup> The commands of the Special Republican Guard, for example, are populated with officers either drawn from areas noted for loyalty to Saddam, such as Tikrit, or related to him by blood or marriage. "Saddam's Shield: The Role of the Special Republican Guard," *Jane's Intelligence Review*, January 1999, p. 29.

reportedly executed for suspicion of disloyalty.<sup>17</sup> More recently, a former commander of Baghdad's air defense system, along with 23 other officers suspected of disloyalty, was reportedly executed for conspiring against the regime.<sup>18</sup> These are but three of many recent reports of officer purges in Iraq.<sup>19</sup> Transfers of command are just as frequent.<sup>20</sup>

It is also common in Communist, authoritarian, and totalitarian systems to appoint outsiders, often from internal security organizations or the ruling party, to command positions. To use Iraq again as an example, many military commanders are members of the Ba'ath party and/or security elements, and have had only abbreviated military careers or skipped much of the normal combat arms officer career path.<sup>21</sup>

### **Duplicate Chains of Command and Missions**

Poor civil-military relations can also often result in duplicative organizations and chains of command in the military. This occurs because the regime is unwilling to permit any single military organization to gain a monopoly on the use of force, for fear that it could overthrow the government. The result is a proliferation of organizations that have essentially the same mission (the army and Republican Guards, for instance) and a myriad of security apparatus that watch each other. For example, Iraq has at least three military organizations with substantial ground combat power: the Special Republican Guard—the only force permitted in central Baghdad—consisting of four infantry brigades, armor, air defense, and artillery; the Republican Guard; and the Regular Army.

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<sup>17</sup> Ian Black, "Iraqi Resistance Gets Data from Saddam's Intelligence," *Washington Times*, November 20, 1998, p. 17.

<sup>18</sup> "Iraq Said to Execute 24 Army Officers," *Washington Post*, March 10, 1999, p. 18.

<sup>19</sup> See, for additional examples, "For the Record," *Washington Post*, December 1, 1998, p. 19; "Report of Iraqi Executions," *New York Times*, January 8, 1999; "Iraqi Officers' Arrests said Linked to Security Breach," *Al-Sharq al-Awsat*, May 14, 1999, in *Foreign Broadcast Information Service, Near East/South Asia Report* (online edition) (hereinafter FBIS), May 14, 1999; and "Baghdad Discovers Coup Plot Cell in the Public Security Service," *Al-Zaman*, July 8, 1999, in FBIS, July 8, 1999.

<sup>20</sup> See "TNC Reports Saddam Shifts Military Commanders," Iraqi national Congress (Internet) WWW, June 6, 1998, FBIS, June 6, 1998. This practice is also prevalent in President Mubarak's relationship with the Egyptian armed forces. See "Military Still Looks to the West for Doctrine," *Jane's Defence Weekly*, February 28, 1996, p. 22.

<sup>21</sup> "Qusayy To 'Cleanse' Army by Retiring Senior Officers," London *Al-Sharq al-Awsat*, May 22, 1997, p. 6, FBIS, May 22, 1997.

A similar situation exists in Cuba, where the Ministry of Interior has Special Troops and other assets with considerable light infantry and military police capability.

Saddam carries this duplication pattern into his security services as well. The Special Security Organization, the Iraqi Intelligence Service, and the Secret Police are all responsible for monitoring each other as well as the behaviors of the officer corps in the parallel military organizations.<sup>22</sup> This system makes conspiracy by the military difficult and provides the regime with the early warning of dissension it needs to expeditiously purge individuals who pose inordinate risk. While this ensures the survival of the regime, it also punishes excellence and initiative in the officer corps and creates an overall environment of fear and distrust that is detrimental to unit cohesion. And it creates an obvious dis-economy of scale in the use of training budgets and resources. These duplicative organizations share few facilities, so double (sometimes triple) sets of training infrastructure and staff are needed. And of course many of these training establishments themselves tend to be commanded by loyalist appointees whose priority is indoctrination, not effective military training.

### **Lack of Integration, Tendency Toward Hyper Centralization**

Training that is accomplished in regimes with poor civil-military relations is often narrowly focused on small-unit, single service operations. This is because little lateral or horizontal cooperation is permitted between commands (indeed, it is often explicitly prohibited and physically impossible). The same is true of joint training and deliberate planning for joint operations. Most command communications nets hub through central points to facilitate security monitoring and to inhibit plotting. In this system designed explicitly to engender distrust, organization and service component commanders are suspicious of each others' motives. Taking the initiative to improve integrated training can be a career-threatening event.

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<sup>22</sup> In keeping with his policy of appointing loyal persons to sensitive posts, Major General Kamal Mustafa Al Tikriti—brother of the husband of Saddam's youngest daughter—was appointed commander of the SRG in 1997; the SSO is headed by Saddam's son Qusay; and the Saddam Fedayeen is led by his eldest son Uday. Recently, Saddam carried out large-scale changes to increase the number of Tikriti officers occupying sensitive positions. See "The Number of Tikriti Officers Increases in the Important Positions," Kuwait *Al-Qabas* WWW (Internet), March 22, 1999, *FBIS*, March 22, 1999.

For the same reasons that regimes limit opportunities for integration, they also limit opportunity for realistic and large-scale field training and exercises. "Big" is threatening to these regimes, so most field exercises are either limited in size or rigidly scripted and controlled at very high echelons. (The regime wouldn't want a maneuver division to turn toward the capital.) No-notice readiness exercises are largely excluded for the same reason. And, partly to spare the frequently unqualified unit commanders embarrassment, there is little of the concept of learn-by-failing in the exercises that do occur. Scripting ensures that results match the plan.

All of the above are obvious disadvantages in preparing for modern combat operations, which require that forces be disciplinarily integrated and coordinated. Consequently, in many regimes with poor civil-military relations, competence—where it exists at all—is limited to simplistic planning and small-unit operations.

Regimes that feel threatened by their militaries also tend to hyper-centralize military decision-making. Nearly all decisions regarding training, battle plans, ammunition, logistics, etc., must be approved by the central military authorities and by the regime. Often this centralized control is used to punish politically incorrect unit commanders by denying them ammunition and logistic support. Saddam Hussein reportedly limits supplies to some ground units and rations jet fuel to others, severely restricting their training activity and possibly exerting an even greater impact on operations.<sup>23</sup>

### **Little Overseas Training or Contact with Outsiders**

Finally, regimes that feel vulnerable to their militaries frequently restrict or deny their officers any opportunities for interaction with foreign military experts. They will not send personnel overseas for technical training or staff college, they do not invite foreigners for personnel exchanges or extended in-country training, and they carefully monitor all contacts with foreign personnel that do occur. Regimes impose these restrictions in part because of the fear that their officers (particularly junior officers) may become counter-indoctrinated or recruited by hostile intelligence services. But perhaps

more importantly, they fear the development of a network of personal relationships between their own officers and foreign officers. The fear is that such networks make it possible for coup plotters to solicit outside help and support with confidence that their outside contacts will not denounce them. Another fear is that the networks could be used in reverse by other governments interested in fomenting a coup,<sup>24</sup> or at least to subvert officers into becoming unwitting agents of influence for a foreign government.<sup>25</sup>

No-contact policies have predictable results. They deprive the affected militaries of opportunities for technical training and studying cutting edge thinking about operational art. They also sacrifice opportunities for officers to be exposed to critical thinking and challenges to conventional wisdom (not normally part of a political commissar's repertoire).

### **DE MINIMIS EXCEPTION**

All of the protective behaviors described in this section place fundamental constraints on a military's ability to attain and maintain the skills necessary to perform effectively—even though they may be willing to spend substantial sums on training and readiness. (See Figure 2-5.) But, this is not to say that so-called pockets of excellence capable of operating effectively at the tactical level cannot exist in such militaries. (For

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<sup>23</sup> See James Morrison, "State of Paranoia," *Washington Times*, January 15, 1999, and Con Coughlin, "Saddam Seeks Kamikazi Squad but Doesn't Trust His Pilots," *London Sunday Telegraph*, March 21, 1999.

<sup>24</sup> Bruce W. Farcau, *The Coup: Tactics in the Seizure of Power* (Westport, CT: 1994), pp. 103-100 and passim, and Steven R. David, *Third World Coups d'Etat and International Security* (Baltimore: Johns Hopkins University Press, 1987). Note, though, that David says such training programs for foreign personnel in the United States intended to help influence foreign attendees may not produce as much influence as commonly supposed (p. 33).

<sup>25</sup> For example, the personal contacts between the U.S. Chairman of the Joint Chiefs of Staff and his Indonesian counterpart, which occurred as part of the Defense Department's military-to-military contact efforts, are credited with having helped gain the Indonesian military's agreement to deployment of an international peacekeeping force to East Timor. Elizabeth Becker, "U.S.-To-Jakarta Messenger: Chairman of the Joint Chiefs," *New York Times*, September 14, 1999. A source quoted in that news report stated, "It was a big plus to have someone who could call the Indonesian military—they were the ones calling the shots," said a senior administration official. "We had a unique asset and I don't see how our military could have done it without their past history with these generals."

- **Political loyalty the criterion for assignment and promotion**
  - Purges of officer corps
  - Frequent rotation of commanders
- **Hyper-centralized decision making**
- **Little horizontal cooperation among forces**
- **Duplicate organizations and chains of command**
- **Minimal joint training**
- **Few opportunities for interaction with foreign expertise**
- **All of these factors inhibit skill attainment**
  - So their militaries face significant obstacles to improvements in skill

**Figure 2-5. Hypothesized Effects of Poor Civil-Military Relations**

example, Syria's Special Forces are regarded as highly capable at light infantry and ambush tactics.)<sup>26</sup> For this reason, we explicitly rule out of our hypothesis the claim that poor civil-military relations make it impossible for affected militaries to make *any* use of advanced technologies. An initial salvo of missiles, the delivery of a few NBC-armed missiles, the lucky shot that brings down an F-117, cannot be ruled out. And so our hypothesis may have less to say about circumstances in which one side has a zero tolerance for casualties, or in which an opponent is willing to use a small number of deliverable weapons of mass destruction in countervalue mode. We argue instead that the prohibitions and impediments to realistic training and operational coordination will quickly degrade such countries' ability for sustained, effective, larger-scale conventional military operations.<sup>27</sup> And to the extent that pockets of excellence exist at all in such

<sup>26</sup> Syrian commandos, for example, conducted one of the most successful ambushes that has occurred against the Israeli Defense Force (in 1982 at Ain Zhalta in Lebanon). Richard A. Gabriel, *Operation Peace for Galilee: The Israeli-PLO War in Lebanon* (New York: Hill & Wang, 1984), p. 97. In addition, reports express concern that Syrian special forces may be capable of destroying Israeli radar sites as the first step of a non-notice Syrian strike against Israel. U. S. House of Representatives, Task Force on Terrorism and Unconventional Warfare, *Approaching the New Cycle of Arab-Israeli Fighting*, December 10, 1996.

<sup>27</sup> According to the QDR, such operations are the constraining cases for force size and capability in the current defense program.

militaries, the units involved are likely to be small and even themselves unable to maintain high skills for sustained periods.<sup>28</sup>

## ORGANIZATIONAL CULTURE

Culture (defined as the totality of socially transmitted behavior patterns) is a factor that has received scant attention in the scholarship on military effectiveness.<sup>29</sup> Yet culture has been found to have a significant effect on organizational behavior, and militaries are often the largest organization in any given country.

How does culture affect organizations? Societies develop generally accepted norms of behavior that are transmitted to their members through acculturation. As a matter of social self-preservation, norms regarding behavior that affect others are particularly strong, as are the sanctions for breaking them. People take this imbedded programming with them when they join institutions and organizations. Members of organizations, therefore, generally wish to honor society's norms of behavior even when acting as members of an organization.<sup>30</sup> It is true that organizations can have goals that are not completely co-joint with their host society's, especially over the short term. (Most organizations have a preference for autonomy and accumulation of resources, even, for example, when resource accumulation results in social costs such as environmental pollution.) And some organizations try to create internal norms of behavior that are consciously differentiated from the social average. (Vide the current management literature's fascination with corporate cultures that foster innovation through "out of the box thinking.")<sup>31</sup> The acceptance of such imposed norms is rare, however, as deviations from social norms are usually quite small.

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<sup>28</sup> Because of the inherent suspicion in non-democratic systems of elite units.

<sup>29</sup> The definition is taken from *Webster's II New Riverside University Dictionary* (Boston: Riverside Publishing Co, 1994).

<sup>30</sup> See Fons Trompenaars and Charles Hampden-Turner, *Riding the Waves of Culture: Understanding Cultural Diversity in Global Business* (New York: McGraw-Hill, 1998), pp. 161-185.

<sup>31</sup> Companies such as Apple Computer and Nordstrom are often regarded as having distinct corporate cultures. Guy Kawasaki, *The Macintosh Way* (Scranton, PA: Harper Collins, 1990).

So organizations eventually evolve their own culture of behavior or “organizational culture,” which is distinct from but usually coupled to underlying societal norms. Organizational culture can thus be defined as *a set of strongly established, culturally sanctioned action and interaction patterns and expectations within an organization.*

Dysfunction occurs when attempts are made to influence members of an organization to behave in ways that run counter to those culturally sanctioned patterns. This happens frequently when some outside agency attempts to force an organization to undertake activity that goes against its sense of identity and culture. (This has been cited, for example, as the reason why airlift is chronically underfunded in the Defense program.)<sup>32</sup> It can also happen when a “foreign” process or system is introduced into an organization (even in cases when the decision-makers in an organization favor the innovation). If the foreign process carries with it an expectation of behavior that runs counter to the norms of the organizational culture (again, generally matched with those of the host society), massive inefficiency can occur, and even complete system failure is possible. People do not function well for long in situations where their organization is formally insisting they do one thing but every instinct (acculturation) is urging them to do something else. Few people, for example, will happily “re-engineer” their own job out of existence. Large-scale strikes occur in Europe when organizations attempt to shift priority from job security to economies of scale that cut jobs.

### **Measuring Organizational Culture**

To behavioral scientists and management theorists, organizational culture is thought to result from the interaction of four sets of behavioral norms. Using that set as a taxonomy, the behavior of people within an organization can be measured using the coding criteria shown in Figure 2-6, and a composite description (or “score”) can be

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<sup>32</sup> John D. Harrington, “Neglected U.S. Military Missions: Contending Theories of Bureaucratic Politics and Organizational Culture and the Case of Airlift Mobility,” Ph. D. Thesis, Georgetown University, 1996.



developed of the organization's culture.<sup>33</sup> This is a particularly useful concept when comparing behavior in organizations across societies, as we will do in the next chapter.

- **Norms for managing others (bases for selection and advancement)**
  - Objective qualification and advancement standards, *or*
  - Personal relationships/other criteria
- **Norms for managing oneself (bases for loyalty)**
  - Obedience to hierarchy
    - Individuals to organization and sub-organizations to higher-level organization ("task orientation"), *or*
  - Obedience to patrimonial/honorific ties
    - Individuals to persons or groups ("personal or sectarian orientation")
- **Norms for managing uncertainty**
  - Acceptance
    - Flexibility in operations, *or*
  - Avoidance
    - Strict adherence to scripted rules and operational plans
- **Norms for managing time**
  - Future oriented, *or*
  - Immediatist

**Figure 2-6. Categorizing Organizational Behavior**

Skill can be defined as the ability to reliably produce an intended effect, given that the resources involved are physically capable of it. It follows that organizational skill can then be defined as the ability of an organization to reliably produce an intended effect (again, given that the organization possesses requisite resources). Using this definition, it becomes clear that organizational culture should in theory be an important determinant of skill. Organizational culture can facilitate task accomplishment if the processes through which resources are employed match closely with the organization's behavioral norms. *And organizational culture can greatly impede task accomplishment if the processes employed demand that people behave contrary to those norms.* Resources must be organized into processes or systems in order to be employed. Systems involving high

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<sup>33</sup> See Geert Hofstede; *Culture's Consequences: International Differences in Work-related Values* (London: Sage, 1984) and Trompenaars and Hampden-Turner, *op. cit.*

technology tend to be especially complex, and so the ability to produce intended effects from these systems is even more highly dependent on a close match between the technology's operational expectations and organizational culture.<sup>34</sup>

### **"Culture Lag"**

While there are few studies focusing directly on "culture lag" in militaries, investigators have examined the question of why developing countries frequently experience difficulty in assimilating advanced technology. Many agree that the source of the problem seems to be cultural mismatch between system designers and operators.

The process of attempting to reconcile imported technology and the cultural norms and expectations of the adopting society is called "technological adaptation."<sup>35</sup> Problems may occur when system designers unknowingly design behavioral expectations into systems. Behavioral norms are deeply ingrained and therefore largely subconscious. Processes—maintenance and operating procedures, for example—are partly normative and are therefore normally less completely expressed in system designs. This makes them difficult to transfer where even small differences in culture exist, and very difficult to adapt when there are large differences. This problem is so common in technology transfer that it has even been given a moniker—"cultural lag."<sup>36</sup>

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<sup>34</sup> Why? Because advanced technology tends to be more expensive on a unit basis than the resources it replaces. To improve productivity (and therefore profits) the organization therefore must achieve economies of scale by servicing more customers on a unit basis (internal or external) with the new equipment than the old. Because there is less new equipment to go around, each part of the organization that depends on the new equipment is now more interdependent, and interdependency is an attribute of complexity.

The hoped-for economy of scale will occur only if the people having control of the new improved equipment share the organization's priorities. If instead they give first priority to support for their relatives or ethnic kinsmen, or if they simply sell the new equipment and pocket the proceeds, the organization is worse off than it was before. This is why the behavioral expectations embedded in the process for using the new technology must match the organizational culture in which it is to operate in order for the introduction of new technology to have any prospect of improving overall performance.

<sup>35</sup> William C. Schaniel, "New Technology and Culture Change in Traditional Societies," *Journal of Economic Issues*, 22 (June 1988), pp. 493-98, at 497.

<sup>36</sup> Arunoday Saha, "Cultural Impediments to Technology Development in India," *International Journal of Sociology and Social Policy*, 10, 8 (1990), pp. 25-53, p. 27.

## **Military Organizational Culture and Advanced Weapons**

Modern military organizations tend to be the epitome of advanced technology and complex, interdependent operational and support systems. So if organizational culture is a skill determinant and if technology magnifies its importance, it is reasonable to suppose that organizational culture is especially important in assessing *military* skill. And as evermore technologically sophisticated weapons systems are introduced into militaries and linked into an evermore interconnected system-of-systems, organizational culture's effect on skill should intensify and the penalty for a mismatch between culture and technology and its operating and support systems should become greater. So we will turn next to why it may be reasonable to suppose that such culture lag exists, particularly for would-be recipients in developing countries.

Most advanced weapons systems are designed in "Western" countries. (This term will be defined in Chapter 3.) For reasons explained above, these systems have embedded within them expectations regarding how the personnel that operate them will behave. Understandably enough, these behavioral expectations derive from the culturally based organizational behavioral norms of the Western designers. Many of the countries that purchase these systems are "non-Western" in terms of their culturally derived behavior norms. So the importation of Western weapons systems into non-Western militaries creates a mismatch between the designers' expectations of how the systems will be operated and the organizational norms of the non-Western users. This results in inefficient operation of those systems.

What does it mean to say that most advanced conventional weapons systems are designed and produced in states that can be characterized as having "Western cultures?" Measured in constant 1998 U.S. dollars the United States, the United Kingdom, Germany, France, and other Western European countries were the source of 88 percent of all arms transfers during the period 1991-1998.<sup>37</sup> (Many of the remaining transfers came from Russia, which is more culturally similar to the four "Western" arms suppliers than it is to most developing nations.)

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<sup>37</sup> Grimmett, *Conventional Arms Transfers to Developing nations*, op. cit., p. CRS-81.

The “big four” arms suppliers are quite similar to one another in terms of the four norms of organizational behavior shown in Figure 2-6.<sup>38</sup> For example, with regard to *how leaders manage others*, their bases for selection and advancement in most governmental and business organizations tend to be meritocratic. Regarding *how managers and workers manage themselves*, the expectation in the West is that both will be obedient, loyal to an organization’s hierarchy, and task-oriented. They also tend to accept *uncertainty* and to focus on the future in how they *manage time*. Not surprisingly, researchers have found that these expectations shape the approaches taken in designing complex systems. For example, Charles Perrow, a scholar of human factors and system design, has reported the following:

The design of systems, and the equipment that is used, is not entirely determined by technical or engineering criteria; designers have significant choices available to them that will foster some types of social structures and operator behaviors rather than others.<sup>39</sup>

Perrow’s conclusions about system design in general have been found to hold true in particular in the design of advanced weapons systems. Chris Demchak studied the U.S. Army’s effort to develop its “fully networked,” systems-of-systems future fighting force.<sup>40</sup> She found that the design for the networked battlespace implicitly includes assumptions regarding the organizational norms within which the system will operate, including the “Western” norms of meritocratic assignment and promotion, loyalty to the organization, and task orientation.

## NON-WESTERN RECIPIENTS

Given that Western cultural values are engineered into most weapons systems, there is every reason to expect problems with culture lag when Western systems are

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<sup>38</sup> In Chapter 3, we will present research that quantifies those characteristics for the Western suppliers and other nations.

<sup>39</sup> Charles Perrow, “The Organizational Context of Human Factors Engineering,” *Administrative Science Quarterly*, 28 (1983), pp. 521-41.

<sup>40</sup> Chris C. Demchak, “Tailored Precision Armies in Fully Networked Battlespace: High Reliability Organizational Dilemmas in the ‘Information Age,’” *Journal of Contingencies and Crisis Management*, 4, 2 (June 1996), pp. 93-103.

exported to developing countries, because most of these recipients have markedly different cultures of organizational behavior.

This becomes evident when those countries' norms for organizational behavior are measured against the taxonomy in Figure 2-6, above. Western managers tend to assign and promote using a meritocratic system. Many non-Western managers base those decisions on personal relations. Western managers and workers tend to be hierarchically obedient and task-oriented; non-Westerners tend to be obedient and loyal to non-organizational entities (e.g., individuals, families, tribes, or sects) and are generally relationship oriented. Western managers tend to accept uncertainty; non-Western managers seek to avoid it and prefer, instead, multitudes of scripted rules and plans. Western managers are future oriented, but non-Western managers tend to be immediatist, thinking primarily of the satisfaction of short-term goals.

American security assistance personnel have commented on how these non-Western behavior norms can hinder assimilation of Western military technology and processes. For example, one American advisor to the Saudi Arabian Army Ordnance Corps (SAAOC) who was assisting in the design of a modern combat service support system made the following observations:

Counterpart [Saudi] personnel tended to accept the requirement for short-range planning; mid- and long-range planning requirements were not generally accepted and were often rejected totally. This seemed especially true of senior counterparts ... This proclivity for short range, immediate action was often observed to cause sub-optimizations.

There is a large difference between Western advisers and Saudi counterparts regarding whether one should have his performance evaluated against some objective standard. There is a lack of organizational loyalty: loyalties are personal in nature and are not directed towards achievement of organizational objectives. Thus, performance evaluation techniques along Western lines, if used at all, evaluate and document personal relationships and ties and do not necessarily reflect actual performance.

... rank often appeared to have far less meaning than it does in the US Army. Individual advisors reported witnessing scenes in which privates did not hesitate to 'tell off' an SAAOC colonel, especially if they were of the same tribe. no matter how immature subordinates appeared to be, SAAOC counterparts normally dealt

with them in relationship-oriented terms rather than imposing a more structured task-oriented behavior.<sup>41</sup>

These observations illustrate how culturally different many foreign militaries are from their Western counterparts, and highlight the sub-optimizations that can therefore occur when attempting to transfer systems and technology from the latter to the former.

### **LARGE OR SMALL EFFECTS?**

The logic of the arguments presented in this chapter suggests that civil-military relations and culture lag are determinants of military skill, and therefore combat outcomes. But exactly how important are they? We turn to that question in the next chapter, in which we present the results of testing our hypotheses using a statistical analysis of combat since 1946.

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<sup>41</sup> Major J. Mayton, Jr., *Cultural Factors in Managing an FMS Case Program: Saudi Arabian Army Ordnance Corps (SOCP) Program* (Ft. Belvoir, VA: Defense Systems Management College, 1977), pp. 23-24.

### 3. TESTING THE ALTERNATIVE HYPOTHESES

To test our hypotheses regarding the impact of civil-military relations and culture on military effectiveness, we conducted a large-*n* analysis of performance in 457 military conflicts during the 1946-92 period.<sup>1</sup> Our independent variables were capital resources, human capital, civil-military relations, and culture and our dependent variable was military performance in war. Capital resources and human capital were included in the analysis to control for two obviously important factors in a military's ability to both purchase weapons platforms and technologies and attain skill.

#### OPERATIONALIZING THE VARIABLES<sup>2</sup>

A state's gross domestic product per capita is widely accepted as an indicator of economic development and spending potential, and was used to define the variable *capital resources*.<sup>3</sup> We chose *literacy rate* as the measure of human capital because it is

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<sup>1</sup> We express our appreciation to Herb Tillema for granting access to his Overt Military Interventions database. See Herbert K. Tillema, *Foreign Overt Military Interventions, September 2, 1945 – December 31, 1991* (Columbia, MO: University of Missouri, 1995). Additional casualty data were drawn from Michael Clodfelter, *Warfare and Armed Conflicts: A Statistical Reference to Casualty and Other Figures, 1619-1991, Volume II, 1900-1991* (Jefferson, NC: McFarland & Company, Inc., 1992).

<sup>2</sup> A codebook with the values for each of our 457 records is printed as an appendix to this paper.

<sup>3</sup> GDP data were drawn from the *Penn World Table (version 5.6)*, The Center for International Comparison at the University of Pennsylvania. Those data are available online at <http://pwt.econ.upenn.edu>; and are described in Alan Heston and Robert Summers, "The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950-1988," *Quarterly Journal of Economics*, (May 1991), pp. 327-368.

Supplementary data came from World Bank, *World Development Indicators CD-ROM 1998* (Washington, DC: World Bank, 1998); International Monetary Fund, *International Financial Statistics* [Computer file], 2<sup>nd</sup> release (Washington, DC: International Monetary Fund [producer], 197?); Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 1979); International Monetary Fund, *World Economic Outlook Database April 1999*, available at <http://www.imf.org/external/pubs/ft/weo/1999/01/data/index.htm>; Economic Commission for Latin America and the Caribbean, Statistics and Economic Projections Division, *Statistical Yearbook for Latin America and the Caribbean* [computer file]; and World Bank, *Africa Live Database*, available at <http://www.worldbank.org/html/extpb/aldb.htm>.

representative of basic educational achievement and ability to learn in the future.<sup>4</sup> (We investigated other possible measures, such as school enrollment, but data from the 1950s and 1960s were impossible to find for many developing countries.)

*Civil-military relations* was operationalized as a dichotomous variable, i.e., either good or bad. If a country experienced a coup plot, failed attempt, or successful coup within 2 years prior to a conflict in which it participated, we coded it as having poor civil-military relations. Otherwise, it was coded as having good civil-military relations.<sup>5</sup> (At a future date we plan to perform sensitivity analyses by both adjusting that 2-year window and discriminating between coup plots/failed attempts and coup successes.)

*Culture* was operationalized based on data from a survey conducted in 1970 of over 72,000 personnel in overseas subsidiaries of a large "Western" multinational business organization with facilities in over 40 countries.<sup>6</sup> The survey asked respondents to characterize the behavioral norms of their host-country business counterparts. In analyzing the results of the responses, Geert Hofstede determined that organizational culture could be characterized in four different dimensions, which he termed *Power*

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<sup>4</sup> Literacy data were drawn from World Bank, *World Development Indicators CD-ROM 1998* (Washington, DC: World Bank, 1998); United Nations Educational, Scientific, and Cultural Organization, *UnESCO Statistics: World Education Indicators*, available at <http://unesco.stat.unesco.org/Indicator/Indframe.htm>; and U.S. Bureau of the Census, *International Database*, available at <http://www.census.gov/ipc/www/idbnew.html>.

<sup>5</sup> Coup data were compiled from Patrick J. McGowan, *African Military Intervention Events, January 1, 1956 to December 31, 1985* (Tempe, AZ: Arizona State University, 1986); T.Y. Wang, *African Coup Events Data, 1986-1990* [Computer file], ICPSR version (Normal, IL: T.Y. Wang, Illinois State University, Dept. of Political Science [producer], 1995, Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 1997); Edward Luttwak, *Coup D'Etat: A Practical Handbook* (New York: Alfred A. Knopf, 1969); Robert H. Dix, "Military Coups and Military Rule in Latin America," *Armed Forces & Society* (Spring 1994), 439-456; and Harvey G. Kebschull, "Operation 'Just Missed': Lessons from Failed Coup Attempts," *Armed Forces & Society* (Summer 1994), pp. 565-579.

<sup>6</sup> Geert Hofstede, *Culture's Consequences: International Differences in Work-related Values*, op. cit. and Geert Hofstede, *Cultures and Organizations: Software of the Mind* (New York: McGraw-Hill, 1991). Hofstede's findings have been replicated by others in more recent studies. See, for example, Peter Smith, Shaun Dugan, and Fons Trompenaars, "National Culture and the Values of Organizational Employees," *Journal of Cross-cultural Psychology*, 27, 2 (March 1996), pp. 231-264.



*Distance* (how leaders manage others), *Individualism*, *Masculinity* (how workers manage themselves), and *Uncertainty Avoidance*.<sup>7</sup>

Each dimension was defined as representing a spectrum of behavioral tendencies. The survey questionnaire asked a series of questions about worker and manager practices and expectations regarding each dimension of behavior. These responses were averaged by countries, and factor analysis was used to cluster them. Index scores were then constructed to rank these responses relative to each other with reference to the "Western" behavior characteristics shown in Figure 2-6.<sup>8</sup>

We used these dimensional indices to determine each country's degree of "Western-ness" with respect to a particular dimension. We did so by defining the highest country score to be the baseline for that particular Western cultural norm and calculated a *distance score* for each country relative to the defined Western norm.<sup>9</sup> This methodology resulted in a quantitative measure of each state's relative Western-ness. The range of distance scores resulting from this approach was from one to 219, where one represents the most Western (that is, closest to the defined Western cultural baseline) and 219 the least Western. The scores were then normalized by calculating z-scores based upon the median score of the top weapons exporting countries in the world.<sup>10</sup> The final rankings had the added virtue of matching intuition in most cases. (For example, the United States,

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<sup>7</sup> Hofstede's four dimensions correspond to only three of the four factors governing organizational culture that we posited in Chapter 2, i.e., *how leaders manage others*, *how managers and workers manage themselves*, and *how they manage uncertainty*. We are in the process of obtaining a more recent and comprehensive set of survey data (compiled using the same survey methodology) that will also permit us to code attitudes toward time management.

As an example of the technique, see his detailed example of the construction of his Power Distance Index, Geert Hofstede, *Cultures and Organizations*, op. cit., Chapter 2.

<sup>8</sup> Again, with the exception of time management.

<sup>9</sup> We are focusing on a "Western" culture because nearly all exports of weapons systems and military technology (88 percent on a dollar-value basis over the period 1991-1998) come from the United States and Western Europe. It follows that there is a high probability that exports selected at random originated from one of those sources.

<sup>10</sup> The United States, United Kingdom, Germany, and France.

Great Britain, Canada, Australia, New Zealand, South Africa, and West Germany scored closest to the Western baseline).<sup>11</sup>

All of the pertinent literature suggests that the cultural norms measured in Hofstede's survey change only very slowly.<sup>12</sup> We therefore assumed that the 1970 survey was a valid measurement of each country's cultural norms over the whole period 1946-1992. A larger survey of international businesses using similar techniques was conducted in the 1990s. We hope to be able to obtain those data (which are unpublished) to test the stability of country scores over time.

There are of course many different ways that one might measure our dependent variable of combat outcomes. We chose *combat fatalities*. This was partly because it has been the measure of greatest interest to our government sponsors in our ongoing skill-technology research, and it was partly a concession to resource limitations. Budgets for internally funded research projects at IDA are small, so we were obliged to use existing databases. This forced us to narrow our focus to casualties suffered only by the intervenor (or initiator) in each conflict, because those are the only casualty statistics in the Foreign Overt Military Intervention dataset. We hope to obtain data on non-intervenor losses soon.

For each conflict in our database, we calculated intervenor fatalities per day of conflict. In addition, each conflict was coded as one of the following five types of military operations:

- Conventional ground force operations using regular military units of company size or larger
- Raids involving units of less than battalion size (larger raids were coded as conventional ground operations)
- Air strikes only
- Shelling only by ground-based artillery or rockets
- Naval bombardment only

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<sup>11</sup> The 1970 survey respondents from South African businesses, of course, tended to be part of the white minority business elite.

<sup>12</sup> This is supported by findings from additional research using Hofstede's methodology cited in footnote 6.

This approach permitted us to test whether the impact of the independent variables varied by type of operation.

## THE EFFECT OF CIVIL-MILITARY RELATIONS

To test our theory of the impact of civil-military relations on combat outcomes we formulated the following formal hypotheses:

H1: Controlling for intervenor and target capital resources, human capital, and culture, countries with good civil-military relations that attack countries with poor civil-military relations will suffer fewer normalized fatalities than when they attack countries with good civil-military relations.

H2: Controlling for intervenor and target capital resources, human capital, and culture, countries with bad civil-military relations that attack countries with good civil-military relations will suffer greater normalized fatalities than when they attack countries with bad civil-military relations.

Applying all of those controls reduced the number of usable records in our dataset from 457 to an  $n$  of 77 records. We partitioned the data by type of intervenor and target civil-military relations, calculated average combat fatalities within each sub-group for all conflicts, and tested the significance of the differences between the means. The results including all types of military operations are shown below in Table 3-1.

**Table 3-1. Mean Intervenor Fatalities per Day as a Function of Intervenor and Target Civil-Military Relations for All Types of Military Operations**  
( $n=77$ )

		Target Civ-mil	
		Good	Bad
Intervenor Civ-mil	Good	2.1 ( $n=50$ ) s.d.=3.9	1.9 (11) s.d.=3.2
	Bad	4.3 (12) s.d.=9.9	0.24 (4) s.d.=.3

The findings displayed in the top row of Table 3-1 offer some support of our first hypothesis. Intervenorors having good civil-military relations suffered slightly fewer fatalities against targets with poor civil-military relations than they did when battling states with good civil-military relations ( $t = .154$ ,  $p = .878$ ). The second row of Table 3-1 provides strong support for our second hypothesis. Intervenorors with poor civil-military relations suffered, on average, nearly 20 times the number of fatalities in conflicts against states with good civil-military relations as they did against states with poor civil-military relations ( $t = .811$ ,  $p = .431$ ). As can be seen, these results are difficult to generalize, given the low  $t$  scores.

We wondered whether the relatively weak effect suggested by the results in the top row and the high standard deviations might be an artifact of combining in one database many different types of operations. Large-scale, sustained conflicts are of most interest to planners dealing with force sizing issues, so we partitioned the data into two sets, one dealing with conventional operations and one set including all other types of military operations. We paid a penalty in robustness of results in consequence. While imposing our original controls on capital resources, human capital, and culture reduced our original  $n$  to the 77 records reported on in Table 3-1, applying additional constraints, as can be seen in Tables 3-2 and 3-3, resulted in cells having very small  $n$  or missing cases. This makes generalizing from the results risky, but they are nevertheless suggestive.

**Table 3-2. Mean Intervenor Fatalities per Day as a Function of Intervenor and Target Civil-Military Relations for Conventional Military Operations Only**  
( $n=12$ )

		Target Civ-mil	
		Good	Bad
Intervenor Civ-mil	Good	2.2 ( $n = 6$ ) s.d.=2.1	5.5 (3) s.d. = 4.5
	Bad	6.6 (3) s.d. = 11.5	(0)

Focusing only on conventional ground operations of company size or larger pared down our 77-record subset to 12 records. The mean intervenor fatalities found in these records are shown in Table 3-2. Unfortunately, the resulting *n*'s are low, making it risky to draw within-condition conclusions. As we continue to build the database, we hope to populate these cells with more cases so such a meaningful analysis can be made. These figures, however, are still useful for the purpose of doing an across-condition analysis to compare the relative impact of civil-military relations on large vs. small size operations. For this, we turn to the analysis in Table 3-3.

**Table 3-3. Mean Intervenor Fatalities per Day as a Function of Intervenor and Target Civil-Military Relations for All Types of Military Operations Except Conventional**  
(*n*=65)

		Target Civ-mil	
		Good	Bad
Intervenor Civ-mil	Good	2.1 ( <i>n</i> = 44) s.d. = 4.1	0.5 (8) s.d. = 1.1
	Bad	3.6 (9) s.d. = 9.9	.2 (4) s.d. = .3

Including only records involving small-scale operations resulted in a subset of 65 records. The results in Table 3-3 offer strong within-condition support for our hypothesis. In the partitioned data, countries with good civil-military relations attacking countries with poor civil-military relations suffered three times fewer casualties than when they attacked states with good civil-military relations ( $t = 2.106$ ,  $p = .04$ ). And the second row of Table 3-3 shows that countries with poor civil-military relations that attacked states with good civil-military relations suffered nine times as more fatalities per day than when they attacked countries with poor civil-military relations ( $t = .655$ ,  $p = .526$ ).

Perhaps even more interesting is a comparison of the results in Tables 3-2 and 3-3. Such a comparison suggests that poor civil-military relations has a stronger impact on performance in larger-scale operations as opposed to smaller-scale operations. A

comparison of the bad-good civil-military relations cells in each table (mean normalized casualties of 6.6 vs. 3.6, respectively,  $t = .453$ ,  $p = .660$ ) offers support for this suggestion. This is consistent with our discussion regarding the detrimental effects of denying the military permission for large-scale exercises, joint training, and horizontal communication because the importance of these factors is magnified in conjunction with the scale of a conflict.<sup>13</sup>

### THE EFFECT OF CULTURE LAG

To test our theory of the impact of culture lag on combat outcomes we formulated the following formal hypothesis:

H3: Controlling for intervenor and target capital resources, human capital, and civil-military relations, Western countries that attack non-Western countries will suffer fewer normalized fatalities than non-Western countries that attack Western countries.

Recall that the cultural distance score of each country was normalized using the z-score method based upon the median score of the top weapons exporting countries. The resulting distribution of normalized culture scores is illustrated in Figure 3-1.

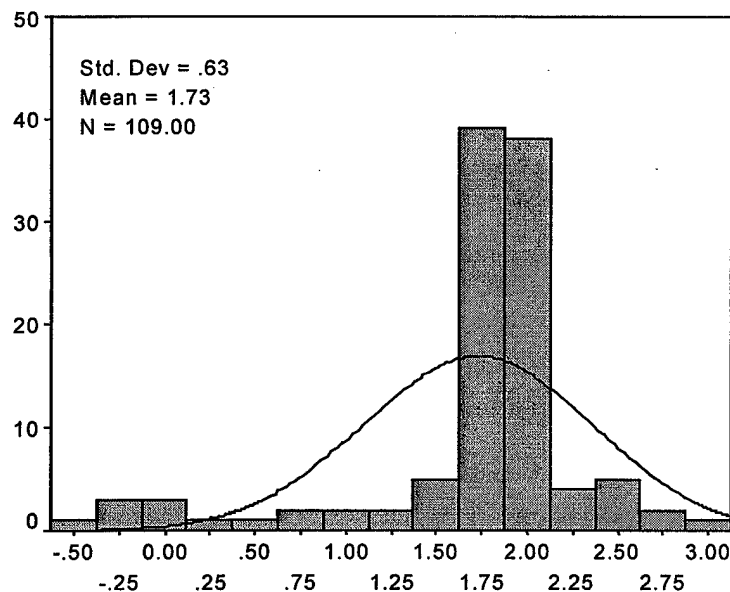


Figure 3-1. Organizational Culture z-scores

<sup>13</sup> Again to ensure the point has been driven home, the p values make generalization difficult.

We categorized countries as “Western” and “non-Western” by working with standard deviation units in this distribution (approximately 1.0). We did two analyses to incorporate a sensitivity test. In our first analysis, those countries that fell within +/- one standard deviation of the mean of this distribution were categorized as “Western” and those beyond +/- one standard deviation were categorized as “non-Western.” These results are shown as the first row in Tables 3-4 (where the intervenor is Western) and 3.5 (where the intervenor is non-Western).

**Table 3-4. Mean Intervenor Fatalities per Day as a Function of Intervenor and Target Culture for All Types of Military Operations**

		Target Culture
		Non-Western
Intervenor Culture	Western	0.79 ( <i>n</i> = 10)* s.d. = 1.61  2.18 (22)** s.d. = 3.97

\* Western states were within +/- 1.0 standard deviations from the mean

\*\* Western states were within +/- 1.5 standard deviations from the mean

We did a second analysis increasing the spread of the standard deviation units, in which states were considered Western if they fell within +/-1.5 standard deviation units of the mean and non-Western if outside that range. These results are shown in the second row of Tables 3-4 (intervenor is Western) and 3-5 (intervenor is non-Western).

**Table 3-5. Mean Intervenor Fatalities Per Day as a Function of Intervenor and Target Culture for All Types of Military Operations**

		Target Culture
Intervenor Culture	Non-Western	Western
		1.2 ( $n = 13$ )* s.d. = 2.5  2.2 (23)** s.d. = 4.3

\* Non-Western states were outside of +/- 1.0 standard deviations from the mean

\*\* Non-Western states were outside of +/- 1.5 standard deviations from the mean

A review of the first row of numbers in these Tables 3-4 and 3-5 supports our hypothesis. Comparing the entries in each table where we have Western vs. non-Western and non-Western vs. Western states, respectively, we observe that Western states suffered fewer casualties against non-Western ( $t=.433$ ,  $p=.670$ ). The results shown in the second row in each table represent a more liberal definition of "Western." These results also support our hypothesis, albeit less strongly ( $t=.041$ ,  $p=.968$ ). This is not surprising, as we likely diluted the effect of cultural difference by casting our net wider. A review of the distributions of intervenor and target z-scores shows that as you move to 1.5 standard deviations from the mean, the number of intervenors and targets with culture scores in this range increases significantly.<sup>14</sup> In fact, in most of the conflicts in which states in the range participated, they fought like-cultured states; thus, the cultural effect is diluted.

## SUMMARY OF RESULTS

All the tests reported in this chapter support our hypotheses. Civil-military relations and culture lag do appear to affect skill, and hence combat outcomes, especially in instances of larger-scale, conventional conflict. They have explanatory power even after the effects of differences in resources and human development are taken into

<sup>14</sup> These distributions appear in the appendix as Figures 1 and 2.



account. The magnitude of the effect is somewhat more difficult to assess given the sensitivity that some of the results display. The sensitivity may be an artifact of the relatively small numbers of cases in the data we had available. (Conflict, fortunately, is a relatively rare event.)

The results of our initial investigation certainly demonstrate that further research on these issues is justified. We hope to increase our number of records by adding additional economic and human development data. We also hope to obtain the more recent survey research on organizational culture. (This would also add to our total number of records, as the more recent research covers more countries.) And we also hope to explore alternative definitions of the independent variables (for example, absolute GDP differences). Finally, once we have located data on target state casualties, we hope to use regression analysis to explore the interaction between civil-military relations, culture gap, wealth, and human development on combat outcomes.

## 4. CONCLUSION AND IMPLICATIONS

The results of our preliminary testing are not conclusive, of course.<sup>1</sup> Much more work will need to be done before we can be satisfied that these phenomena are actually affecting combat outcomes in the way we theorize. But the initial results lead to some interesting speculation about implications if indeed our hypotheses are shown to be robustly true.

### PLANNING UNCERTAINTY AND SIZE OF THE THREAT

The conventional wisdom is that the size of tomorrow's defense challenges is extremely uncertain. That may be incorrect. The size of tomorrow's threats may be easier to forecast—and smaller—than generally supposed.

Table 4-1 lists nations that are commonly identified as potential threats to American security or as potential regional powers or even (in the case of a few) as possible near-peer competitors 25 years or more from now. Every country listed has either bad civil-military relations or very non-Western norms of organizational culture or both. If our hypotheses are correct, these characteristics may act as significant brakes on their ability to improve military skills and thus generate combat power. This does not gainsay the possibility that some of these nations may have quite large military establishments. Economic growth may even permit them to have sizable quantities of advanced equipment. And the human raw material available for military service may be better educated. But their ability to integrate those assets into sustained, large-scale military operations may be quite limited. Nations limited in this way will be at a significant military disadvantage vis-a-vis skilled opponents, even skilled opponents equipped with somewhat less modern systems. Recall that the U.S. Marines achieved the

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<sup>1</sup> Especially because of the small  $n$  for many of them.

same dominant outcome over poorly skilled Iraqis as did U.S. Army counterparts, although the Marines were using equipment that in many cases was a generation or more less modern.<sup>2</sup>

The serendipity of these effects from the perspective of the United States is that authoritarian and totalitarian regimes will find them hardest to change. Most of them earned their poor state of civil-military relations the hard way. Easing up control on the military is thus, for many of them, a risky strategy. And shifts in organizational culture can be especially destabilizing for closed societies. They lack pluralistic outlets for expressions of concern and fear about the changes that are occurring, as for those affected adversely to ask for assistance in the transition. Dictators and authoritarians who attempt to shift behavioral norms as a matter of policy run the risk that the result may reproduce Iran in 1979 or Eastern Europe in 1989.

Are there any alternative strategies that these regimes could employ to try to overcome the disadvantages imposed by culture lag and distrust of their militaries? There are two possibilities, but both have strings attached.<sup>3</sup> First, countries can build-in redundancy to warfighting systems by purchasing redundant equipment. In theory this helps overcome their inability to provide sustained support by replacing end-items needing repair or maintenance with fresh ones. But the costs of such a strategy are becoming prohibitive because the unit costs of modern weapons systems continue to increase. And of course, a redundancy strategy is itself a tax on capability because all of the resources expended on the redundant systems represent resources that more efficient users could devote to purchasing usable capability. Countries could also attempt to rely on outside (Western) specialists to aid in the operations of the systems. Recall, however, that countries with poor civil-military relations tend to restrict interactions with foreign military experts. And this is an expensive strategy as well since a premium over and above their already-high host-country wages often has to be paid to such specialists to get them to agree to relocate. Moreover, their willingness to stay and support systems in the midst of combat must be questioned.

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<sup>2</sup> Biddle, "Victory Misunderstood," op. cit., p. 153.

<sup>3</sup> Drawn from Serge Taylor's discussion of the options available to states importing new technologies. See his "Organizational Complexity in the New Industrial State: The Role of Technology," in Todd R. LaPorte ed., *Organized Social Complexity: Challenges to Politics and Policy* (Princeton: Princeton University, 1975), pp. 77-116.

**Table 4-1. Characteristics of Potential Planning Cases**

Country	Civil-Military Relations*	Distance in Std. Dev. from Western Organizational Culture**
China	Wary	3.03
India	Good	1.70
Pakistan	Bad	3.00
North Korea	Wary	3.33
Iran	Bad	2.87
Iran	Wary	2.87
Libya	Wary/Bad?	2.87
Russia	Wary	Not Scored

\* Wary – significant monitoring of military by security apparatus and presence of political officers  
 Bad – actual coup attempt or reported plotting within last 5 years

\*\* A score of +1.0 means 15% of all countries were more Western; +2.0 means 48% of all countries were more Western; and +3.0 means 81% of all countries were more Western.

<sup>4</sup> Because it is so frequently predicted that China is emerging as a significant military power (and occasionally as even a nascent “superpower”), we feel compelled to add a few paragraphs amplifying its entries in Table 4-1. There is a substantial amount of literature on the indicators of, and deleterious effects of, China’s civil-military relations and organizational culture. See for example M. Ehsan Ahari, “U.S. Military Strategic Perspectives on the PRC,” *Asian Survey*, XXXVII, 12 (December 1997), pp. 1163-1180. Ahari finds that, “Lest one be left with the impression that the incorporation of I[formation] W[arfare] capabilities is likely to be easy for the PRC, one is advised to consider ...the sociocultural constraints ... of Confucianism and communism...” which “restricts the movement of ideas and labor,” creates “resistance to new ideas,” military training that emphasizes “staying within the canon and rote memorization at the expense of independent inquiry,” and promotes the “chauvinistic concept” of *tiyong* which “makes integration of foreign ideas difficult” (p. 1177). Ahari finds that the Chinese military lacks “institutionalized horizontal information-sharing,” and that “bureaucrats and ideologues” play a dominant role (p. 1178). And these characteristics are likely to endure. “Any large-scale abandonment of the Soviet-style organizational principles would require China to become a more open society. . . . By the same token, suggestions ... that the Chinese would abandon the principle of ... control and fully incorporate the principle of multiorganizational networks so vital to information-based warfare must be regarded with skepticism” (pp. 1178-1179).

Ellis Joffee makes similar observations in “Party-Army Relations in China: Retrospect and Prospect,” *The China Quarterly*, 146 (June 1996), pp. 299-314. Joffee reports that the Peoples Liberation Army has “enduring, albeit fluctuating, conflict” with the Chinese Communist party (p. 300), that the post-Deng era “contains the potential for unprecedented military influence on the makeup of Party leadership and on its policies.” (p. 309), and that the Chinese military’s extensive involvement in starting and running commercial enterprises will debilitate it: “Economic entanglement must also be at the expense of military professionalism.” P. 311, and will “undermine unity and subordination to central control” (p. 312). Joffee concludes that, “[The PLA] cannot be a professional army in the Western sense...” (p. 300).

June Teufel Dreyer finds in “The New Officer Corps: Implications for the Future,” *The China Quarterly*, 146 (June 1996), pp. 315-335, that there is a “strong emphasis on strengthening the political loyalties of the PLA” (p. 324), that most generals are “political” (pp. 326-327) and that “factionalism” is intense (pp. 329-332). “Corruption within the officer corps is a serious and apparently intractable problem.” (p. 335)

Bates Gill and Michael O’Hanlon find in “China’s Hollow Military,” *The National Interest*, 56 (Summer 1999), that, “The PLA is still a party army with nepotism and political/family connections continuing to predominate in officer appointment and advancement. The soldiers, for the most part, are semi-literate peasants; there is no professional NCO corps...” Because these characteristics are likely to endure, they conclude that “[the PLA’s] capability to act ... is severely limited...and will remain so for years.”

## **POLICIES ON ARMS TRANSFER AND CONTROL**

If our hypotheses are correct, arms transfers to developing nations are probably much less likely to cause significant shifts in regional conventional arms balances than commonly supposed. (Again, as stated previously, we are not asserting that this is true about transfers of nuclear, biological, or chemical arms or technologies.) Many recipients will simply lack the skill to fully utilize the modern weapon system capabilities. So to the extent that regional powers make realistic assessments of their neighbors' military capability, arms races will not automatically be kindled by the introduction of even advanced systems into a region. Nor would the transfer of such weapons to a potentially hostile power necessarily increase the risk to our allies in the region or to our forces should we need to operate there.

One area that *should* perhaps be of greater concern to us is the transfer of sophisticated technologies for training and simulation. These are increasingly important to the degree that of the high level of skill and readiness maintained by U.S. forces depends on them. (This is especially true in training and skill development of higher echelon staffs and task force commanders.) Acquisition and effective use of these technologies by hostile militaries could in theory pose an acute challenge to our ability to dominate future battlefields. Of course, our hypotheses suggest that the likelihood is low that our potential enemies could assimilate the advanced training and simulation technologies. But the possibility is still troubling.

## **NET ASSESSMENT TECHNIQUES AND INTELLIGENCE REQUIREMENTS**

Most net assessment techniques are of the "bean-counting" variety, focusing on the numbers and technical characteristics of the two sides' weapons.<sup>5</sup> That's also true of intelligence reporting. If our theories are correct, this approach may result in serious over

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<sup>5</sup> See, e.g., Paul K. Davis, ed., *New Challenges for Defense Planning: Rethinking How Much is Enough* (Santa Monica, Calif.: RAND, 1994); U. Candan, L.S. Dewald, and L.R. Speight, *Present NATO Practice in Land Wargaming* (The Hague: SHAPE Technical Center, 1987), Professional Paper STC-PP-252; Wayne P. Hughes, Jr., ed., *Military Modeling* (Alexandria, Va.: Military Operations Research Society, 1984); and John A. Battilega and Judith K. Grange, eds., *The Military Applications of Modeling* (Washington: U.S. Government Printing Office, 1984).

estimations of the military effectiveness of potential enemies.<sup>6</sup> As we have argued, the possession of the material products of technology should in no way imply that these products could be used effectively. From our perspective, this approach to net assessment focuses on the wrong level of analysis and, in so doing, confuses latent weapons capability with military effectiveness. This is especially true of assessments at the theater, force-on-force levels that drive much defense programming (and hence defense budgets). The longer, more wide-ranging and more intense a conflict is, the more the effects discussed in this paper will become apparent.

In our ongoing skill work we have suggested it is imperative that the new generation of combat assessment models now under development include a proper comprehension of how skill and technology interact to produce real combat outcomes.<sup>7</sup> If the hypotheses we explored here are correct, it may be equally important that tools used to forecast future capabilities of foreign forces incorporate civil-military relations and culture lag as factors. And it will be important for the Intelligence Community to have the capability to collect and analyze indicators related to those factors. Failing to do so may result in gross overestimates of the capabilities of potential opponents.

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<sup>6</sup> For a discussion of the over-estimations of Iraqi warfighting effectiveness prior to the Gulf War, see Stephen Biddle, "Victory Misunderstood," *op. cit.*, pp. 139-179, 142.

<sup>7</sup> Biddle, Hinkle, and Fischerkeller, "Skill and Technology in Modern Warfare," *op. cit.*

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## **Appendix**

### **DATASET CONSTRUCTION**

#### **FOREIGN OVERT MILITARY INTERVENTIONS**

In order to test our hypotheses, we needed a set of data on modern military conflict. Funding constraints limited us to adaptation of existing datasets. As completed, our dataset is composed of three main sections: the first includes measures of the various independent variables, such as intervenor and target country financial resources, human capital measures, civil-military indicators, and cultural measures; the second section, based on a dataset constructed by Herbert K. Tillema on foreign overt military interventions,<sup>1</sup> provides information regarding the dependent variable, conflict data and battle outcomes; and the third portion is composed of composite and comparative statistics that provided for hypothesis testing. This appendix describes the construction of the dataset, provides a codebook to interpret the data, and reproduces the dataset in its entirety.

The first step in constructing the dataset involved modifying the Tillema dataset of Overt Military Interventions, hereafter referred to as OMI. The OMI describes 690 foreign overt military interventions initiated between September 2, 1945, the day after Japanese armistice ended World War II, and December 31, 1991, one week after formal dissolution of the Soviet Union. Overt military intervention is operationally defined by Tillema as:

combatant or combat-ready military operations conducted upon foreign territory by units of a state's regular military forces. Overt military intervention includes conventional deployments of ground combat units that involve such actions as alert patrol, offensive maneuver, riot quelling, armed occupation of territory, and battle. It also includes other, usually less intense combatant military operations such as: commando or other small unit raids; aerial bombing, strafing, or rocketry; ground-based artillery or rocketry; and naval gunnery and rocketry. Overt military intervention includes all such operations within territories subject to others' jurisdiction, and also within distinct non-self-governing territories such as colonies, protectorates, mandate and trustee territories or occupied lands not fully integrated

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<sup>1</sup> Herbert K. Tillema, "OMILIST: 690 Foreign Overt Military Interventions, September 2, 1945-December 31, 1991," OMILIST Codebook.

within the generally recognized boundaries of a state. It excludes operations conducted by a state within its own integral territory.<sup>2</sup>

The OMI dataset also excludes engagements among vessels at sea and encounters among aircraft in flight.

The OMI data includes 690 individual foreign overt military interventions over the time period examined. For each intervention, it lists an intervening state and target territory; intervention start and end dates; a code for the initial type of military operation; and any subsequent changes in operations, whether the target consents to the intervention, the number of fatalities suffered by the intervenor, whether a resolution within the UN Security Council approving the use of force was passed prior to the initiation of intervention, and a name for the intervention.

To utilize the OMI for the purposes of the present research, we examined only those interventions that involved force-on-force engagements. As a result we followed several coding rules and thus removed a number of cases from the OMI in constructing our dataset. We removed all interventions involving foreign patrolling, rioting and riot suppression, and policing activities meant to assist the target territory in suppressing internal civil disturbances. Similarly, when the true target of an intervention was a rebel group attacking its own government from a foreign territory in an attempt to gain independence (e.g., the PLO or ANC), we excluded the record. If, however, a rebel group attacked its own government from foreign soil and a third state intervened to attack the rebel group in the foreign territory, we included the record, indicated that it was an insurgency movement, noted the target territory as the state from which the group sought independence and indicated the rebel group in parentheses, and listed the place of the attack by the third party, i.e., the foreign territory, in parentheses after the name of the conflict.

Finally, while Tillema lists the target territory as the geographical location of the intervention, we recoded the target to indicate the nationality of the troops being attacked by the intervening force. Thus, the intervenor and target in our dataset represent the attacking and defending forces for each conflict, regardless of the place where the engagement occurred.

Applying these additional coding rules to the OMI resulted in 457 military interventions involving force-on-force engagements, each coded to include the identity of the intervening state,

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<sup>2</sup> Tillema, OMILIST Codebook.

the target state (and rebel group when appropriate), inclusive dates of the engagement, type of military operations, and fatalities for the intervenor. These 457 interventions form the basis for our dataset.

### **Dependent Variable**

In order to make comparisons across all interventions and all types of engagements we normalized the fatalities suffered by the intervenor. Based on the start and end dates listed in the OMI we computed the length of the intervention in days and then normalized intervenor fatalities by this time measure. Thus, the dependent variable in our analyses is intervenor fatalities per day of conflict.

### **Independent Variables**

For each dyad we obtained information regarding economic resources, human capital, civil-military relations, and culture. In an effort to minimize unnecessary error variation across the several sources needed to obtain the information for each variable we generally employed the most comprehensive source of data. For financial resources this source proved to be the Penn World Tables, which "displays a set of national accounts economic time series covering many countries. Its expenditure entries are denominated in a common set of prices in a common currency so that real quantity comparisons can be made, both between countries and over time."<sup>3</sup> The Penn World Tables offered the most comprehensive coverage both over time and in the breadth of national financial data covered. The Penn World Tables measures Real GDP per capita in constant 1985 US dollars. When Penn World Tables data was missing for either country in a dyad we used data from the World Bank, expressed as GNP per capita in constant 1987 US dollars. Finally, when World Bank data was unavailable for both nations in an intervention dyad, we employed International Monetary Fund data, expressed as GDP per capita in constant 1975 US dollars.<sup>4</sup>

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<sup>3</sup> *Penn World Table (version 5.6)*, The Center for International Comparison at the University of Pennsylvania. Data available online at <http://pwt.econ.upenn.edu/>; and described in Heston and Summers, "The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950-1988," *Quarterly Journal of Economics* (May 1991), pp. 327-368.

<sup>4</sup> World Bank and IMF Financial data were obtained directly from internal databases held at those institutions.

Because we were principally interested in the relative economic disparity between the two combatants, we always used a single source for the financial data for both states. As a result, though we use different economic measurements across the population of interventions, we are able to make across-dyad comparisons because we compare the ratio of one state's economic resources to its adversary's, both expressed in a common currency and controlling for inflation. The use of the ratios, therefore, helps to overcome some of the error introduced by employing different measures. Further, when they overlap, there is a high degree of consistency among the three measures; the correlations between the Penn World Tables and the World Bank and IMF are  $r = .932$  ( $p < .001$ ,  $n = 3103$ ) and  $r = .849$  ( $p < .001$ ,  $n = 2254$ ), respectively, while the World Bank and IMF figures correlate at  $r = .863$  ( $p < .001$ ,  $n = 1053$ ).

Human capital was measured as the illiteracy rate for a nation's total population 15 years of age and older. As with per capita income, due to data constraints, we were forced to use illiteracy estimates from a number of sources. Where possible we used the World Bank World Development Indicators (1998) figures and supplemented this with data from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Education Indicators, and the United States Census Bureau's International Database.<sup>5</sup> Within a five year window prior to and following the start of the conflict, we used the illiteracy estimate that was closest to the date of the intervention. When an intervention fell between two estimates, an interpolation based on known data was computed. For interventions prior to 1960, illiteracy data was typically lacking. When possible, backward extrapolation was made based on known data points obtained more recently. These interpolations and backward extrapolations are noted in the dataset.

For comparative purposes, individual illiteracy rates were converted into z-scores based on the mean illiteracy of the four leading weapons exporting nations (US, UK, France, and Germany; mean = 2%) and the average annual standard deviation across all years of World Bank illiteracy data coverage (1960-1995, average annual standard deviation = 24.77). From these individual z-scores an illiteracy difference measure was computed for each dyad using the formula: intervenor illiteracy z-score minus target illiteracy z-score. This composite measure was used to control for the potential impact of illiteracy differences on battle outcomes.

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<sup>5</sup> Obtained online from <http://unesco.stat.unesco.org/Indicator/Indframe.htm> and <http://www.census.gov/ipc/www/idbnew.html>



Civil-military relations was measured as the presence or absence of coup activity in a country within two years prior to the start of an intervention. For complete global and temporal coverage we referenced a number of coup studies, as noted in Chapter 3, and supplemented this with additional research to expand the coverage of events. While many of the coup studies differentiate between coup plots, failed attempts, and successes, in our analyses we collapsed these categories into one category indicating poor civil-military relations. States were coded as having good civil-military relations if there were no coups, plots or attempts within two years prior to the initiation of the intervention, though a coup, plot, or attempt may have occurred outside that time frame.

The culture scores for each country were obtained from Geert Hofstede's work.<sup>6</sup> In order to compare combatants, each state's culture score was converted into a z-score based on the median culture score of the four leading weapons exporting nations (US, UK, France, and Germany; median = 36) and the standard deviation of the entire distribution of states (s.d. = 59.13). From these z-scores a cultural difference measure was computed for each dyad using the formula: intervenor z-score minus target z-score. It is this cultural difference score that was used both to control for cultural differences and to test for the significance of cultural differences among combatants.

Please direct questions regarding the dataset to: Matthew N. Diascro, Institute for Defense Analyses, Strategy, Forces and Resources Division, 1801 N. Beauregard Street, Alexandria, Virginia, 22311, (703) 845-2298, [mdiascro@ida.org](mailto:mdiascro@ida.org).

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<sup>6</sup> Geert Hofstede, *Culture's Consequences*, op. cit.

## CODEBOOK

The dataset is presented in Table A1.

NUM	Intervention Number	
INTERVEN	Intervening State	
ILIT	Intervenor Illiteracy Rate	
ILITSO	Intervenor Illiteracy Data Source	
	Value	Label
	1	World Bank
	2	UNESCO
	3	US Census Bureau
	4	Interpolation using World Bank Data
	5	Backward projection using World Bank Data
	6	IDA Estimation
ICOUP	Intervenor Coup Type	
	Value	Label
	0	No Coups
	1	No Coups within 2 years prior to intervention
	2	Plot within 2 years prior to intervention
	3	Failed Coup within 2 years prior to intervention
	4	Successful coup within 2 years prior to intervention
	8	No data within 2 years prior to intervention
	9	No coup data for state

ICSO	Intervenor Coup Data Source	
	Value	Label
	1	Luttwak study
	2	Dix study
	3	McGowan study
	4	Wang study
	5	Kebschull study
	6	IDA Online Research <sup>7</sup>
ICULT	Intervenor Culture Score (from Hofstede)	
TARGET	Target State (Name of Rebel Group Target, if applicable)	
TLIT	Target Illiteracy Rate	
TLITSO	Target Illiteracy Data Source	
	Value	Label
	1	World Bank
	2	UNESCO
	3	US Census Bureau
	4	Interpolation using World Bank Data
	5	Backward projection using World Bank Data
	6	IDA Estimation
TCOUP	Target Coup Type	
	Value	Label
	0	No Coups
	1	No Coups within 2 years prior to intervention
	2	Plot within 2 years prior to intervention
	3	Failed Coup within 2 years prior to intervention
	4	Successful coup within 2 years prior to intervention
	8	No data within 2 years prior to intervention
	9	No coup data for state

<sup>7</sup> Infoplease Encyclopedia <http://www.infoplease.com/encyclopdict.html> and Library of Congress Country Studies <http://lcweb2.loc.gov/frd/cs/cshome.html>.

TCSO	Target Coup Data Source
	Value      Label
	1          Luttwak study
	2          Dix study
	3          McGowan study
	4          Wang study
	5          Kebschull study
	6          IDA Online Research
TCULT	Target Culture Score
ILDIF	Illiteracy Difference Score – Intervenor Illiteracy Z-Score Minus Target Illiteracy Z-Score
CUDIF	Cultural Difference Score – Intervenor Culture Z-Score Minus Target Culture Z-Score
NAME	Name of Intervention
DATE	Intervention Start Date
ENDDATE	Intervention End Date
LENGTH	Length of Intervention in Days
MILOPS	Type of Military Operations
	Value      Label
	1          Conventional Ground Operation
	2          Small Unit Commando Raid
	3          Air Strike
	4          Artillery Bombardment
	5          Naval Bombardment
IFATAL	Total Intervenor Combat Fatalities for Intervention
NORMAL	Intervenor Combat Fatalities Normalized by Length of Intervention (in Fatalities per Day)
RATIO	Financial Resources Ratio (Intervenor / Target)

RCODE

Financial Resources Ratio Code

Value

Label

1	Penn World Tables Data
2	World Bank Data
3	IMF Data

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILTSO	ICOU	ICSO	ICULT	TARGET	TLIT	TLTSO	TCOU	TCSO	TCULT	ILDIF	CUDIF
1	Afghanistan	81.8	1	1	6	147	Iran	52.3	1	1	6	119	1.2	0.5
2	Afghanistan	100.0	5	1	6	147	Pakistan	93.8	5	0	1	147	0.3	0.0
3	Afghanistan	81.8	1	4	6	147	Pakistan	73.8	1	1	6	147	0.3	0.0
4	Afghanistan	75.9	1	1	6	147	Pakistan	73.8	1	1	6	147	0.1	0.0
5	Albania		1	1	6	155	Greece	19.6	1	1	6	186		-0.2
6	Algeria	73.6	1	1	6	143	Israel	12.1	9	1	9	79	2.5	1.1
7	Algeria	81.2	1	1	6	143	Morocco	86.2	1	1	6	143	-0.2	0.0
8	Algeria	81.2	1	1	6	143	Morocco	86.2	1	1	6	143	-0.2	0.0
9	Algeria	60.9	2	1	6	143	Morocco	78.6	1	1	6	143	-0.7	0.0
10	Argentina	8.6	1	1	1	119	Chile	16.4	1	8		184	-0.3	-1.1
11	Argentina	8.6	1	4	1	119	Paraguay	25.4	1	1	1	127	-0.7	-0.1
12	Argentina	6.1	1	1	2	119	United Kingdom	1.0	3	0	6	1	0.2	2.0
13	Australia	2.0	6	0	6	22	DPRK					160		-2.3
14	Australia	2.0	6	0	6	22	DPRK					160		-2.3
15	Australia	2.0	6	0	6	22	Indonesia	61.0	1	0	6	152	-2.4	-2.2
16	Australia	2.0	6	0	6	22	Indonesia	61.0	1	1	6	152	-2.4	-2.2
17	Australia	2.0	6	0	6	22	Malaysia (MPABA)	61.4	5	0	6	150	-2.4	-2.2
18	Australia	2.0	6	0	6	22	Rep. Of Vietnam (VC & DRV)	25.9	4	4	1	160	-1.0	-2.3
19	Belgium	2.0	6	0	6	116	DPRK					160		-0.7
20	Belgium	2.0	6	0	6	116	DPRK					160		-0.7
21	Belgium	2.0	6	0	6	116	Rwanda	61.8	1	0	3	143	-2.4	-0.5
22	Belgium	2.0	6	0	6	116	Rwanda	49.8	4	1	4	143	-1.9	-0.5
23	Belgium	2.0	6	0	6	116	Zaire	28.0	2	3	4	143	-1.0	-0.5
24	Belgium	2.0	6	0	6	116	Zaire (FNLC)	34.1	1	2	3	143	-1.3	-0.5
25	Belgium	2.0	6	0	6	116	Zaire (Gizenga Faction)	34.1	1	2	3	143	-1.3	-0.5
26	Burkina Faso	91.2	1	4	3	151	Mali	90.6	1	1	3	151	0.0	0.0
27	Burkina Faso	85.5	1	2	3	151	Mali	77.3	1	1	3	151	0.3	0.0
28	Burma (Myanmar)	39.9	5	0	1	160	Taiwan (Kuomintang)			0	6	151		0.2
29	Burma (Myanmar)	38.8	5	0	1	160	Taiwan (Kuomintang)			0	6	151		0.2
30	Burma (Myanmar)	22.0	1	1	6	160	Thailand	9.3	1	1	6	160	0.5	0.0
31	Cambodia	59.8	4	1	6	160	Dem. Rep. Of Vietnam	16.6	2	1	6	160	1.7	0.0
32	Cambodia	61.1	4	1	6	160	Rep. Of Vietnam	16.6	2	1	6	160	1.8	0.0
33	Cambodia	63.9	1	1	6	160	Thailand	32.3	1	1	1	160	1.3	0.0
34	Cambodia	63.9	1	1	6	160	Thailand	26.2	4	1	1	160	1.5	0.0
35	Cambodia	63.2	1	1	6	160	Thailand	25.4	4	1	1	160	1.5	0.0
36	Cambodia	60.5	4	1	6	160	Thailand	12.0	2	4	6	160	2.0	0.0
37	Canada	2.0	6	0	6	41	DPRK					160		-2.0
38	Canada	2.0	6	0	6	41	DPRK					160		-2.0
39	Chad	77.0	1	1	4	143	Libya	43.5	1	1	6	143	1.4	0.0
40	Chad	77.0	1	1	3	143	Nigeria	57.3	1	2	3	151	0.8	-0.1
41	Chad	70.2	1	2	4	143	Sudan	72.9	1	2	4	134	-0.1	0.2
42	China	74.0	5	1	6	151	Burma (Myanmar)	41.6	5	0	1	160	1.3	-0.2
43	China	67.9	5	1	6	151	Burma (Myanmar)	38.8	5	0	1	160	1.2	-0.2
44	China	50.9	5	1	6	151	Burma (Myanmar)	31.1	4	1	1	160	0.8	-0.2
45	China	34.0	2	1	6	151	Dem. Rep. Of Vietnam	16.6	2	1	6	160	0.7	-0.2
46	China	80.0	5	1	6	151	Dem. Rep. Of Vietnam (Vietminh)	37.8	5	1	6	160	1.7	-0.2
47	China	63.0	5	1	6	151	India	72.2	1	0	6	99	-0.4	0.9
48	China	59.4	5	1	6	151	India	72.2	1	0	6	99	-0.5	0.9
49	China	55.8	5	1	6	151	India	72.2	1	0	6	99	-0.7	0.9
50	China	53.4	5	1	6	151	India	68.5	5	0	6	99	-0.6	0.9

Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	IFATAL	NORMAL	RATIO	RCODE
1	AFGHAN WAR	05-Apr-1982	05-Apr-1982	1	2	1	1.0		
2	PUSHTUN SEPARATISM	30-Sep-1950	30-Sep-1950	1	2	0	0.0		
3	AFGHAN WAR	05-Sep-1981	18-Dec-1981	105	3	0	0.0		
4	AFGHAN WAR	18-Sep-1983	30-Mar-1987	1290	3	1	0.0		
5	GREEK CIVIL WAR	13-Aug-1949	14-Aug-1949	2	2	20	10.0		
6	YOM KIPPUR WAR (in Egypt)	17-Oct-1973	28-Oct-1973	12	1	0	0.0	0.3	2
7	TINDOUFF RAIDS	12-Jul-1962	18-Oct-1962	99	2	0	0.0		
8	MOROCCAN-ALGERIAN WAR	08-Oct-1963	04-Nov-1963	28	1	100	3.6		
9	POLISARIO WAR (in Spanish Sahara)	27-Jan-1976	28-Jan-1976	3	1	30	10.0	3.5	2
10	SNIPE ISLAND INCIDENTS	09-May-1958	09-Aug-1958	93	2	0	0.0	1.6	1
11	PILCOMAYO INCIDENT	13-May-1982	16-May-1982	4	1	0	0.0	3.7	1
12	FALKLANDS WAR	02-Apr-1982	20-Jun-1982	80	1	700	8.8	0.5	1
13	KOREAN WAR	04-Jul-1950	27-Jul-1953	1120	3	100	0.1		
14	KOREAN WAR	17-Oct-1950	27-Jul-1953	1015	1	100	0.1		
15	FIRST INDO-CHINESE WAR	11-Sep-1945	02-Feb-1946	145	1	0	0.0		
16	CONFRONTATION	29-Oct-1964	11-Aug-1966	652	1	1	0.0	14.2	1
17	MALAYAN INSURGENCY	15-Aug-1950	30-Jul-1960	3638	3	30	0.0		
18	SECOND INDO-CHINESE WAR	03-Jun-1965	08-Dec-1971	2380	1	500	0.2		
19	KOREAN WAR	31-Jan-1951	27-Jul-1953	909	1	50	0.1		
20	KOREAN WAR	01-Jun-1951	27-Jul-1953	788	1	50	0.1		
21	TUTSI-HUTU VIOLENCE	08-Nov-1959	01-Aug-1962	998	1	3	0.0		
22	TUTSI INVASION	04-Oct-1990	28-Oct-1990	25	1	0	0.0	17.5	1
23	KINSHASA RIOTS	24-Sep-1991	30-Oct-1991	37	1	0	0.0	103.8	2
24	KOLWEZI RESCUE	19-May-1978	10-Jul-1978	53	1	0	0.0	20.2	1
25	CONGOLESE CIVIL WAR	24-Nov-1964	28-Nov-1964	5	1	2	0.4	12.3	1
26	AGACHER SHELLING	03-Jun-1975	03-Jun-1975	1	4	0	0.0	0.9	1
27	AGACHER BATTLE	26-Dec-1985	28-Dec-1985	1	2	30	30.0	0.9	1
28	MONGHSAT RAIDS (in Thailand)	20-Sep-1953	06-Oct-1953	17	3	0	0.0	0.2	1
29	KUOMINTANG SUPPRESSION (in Thailand)	29-Mar-1955	29-Mar-1955	1	3	0	0.0	0.2	1
30	MAW POKEY INCIDENT	12-Mar-1984	12-Mar-1984	1	2	15	15.0	0.2	1
31	THIRD INDO-CHINESE WAR	15-Mar-1977	10-Jul-1978	483	2	5000	10.4		
32	SECOND INDOCHINESE WAR	01-May-1975	15-Jan-1976	260	2	20	0.1		
33	PREAH VIHEAR RAIDS	11-Aug-1962	12-Aug-1962	2	2	0	0.0		
34	PREAH VIHEAR CLASHES	20-Jun-1965	20-Jun-1965	1	2	0	0.0		
35	PREAH VIHEAR CLASHES	20-Jan-1966	13-Feb-1966	25	2	0	0.0		
36	THIRD INDO-CHINESE WAR	22-Nov-1976	12-Dec-1984	2943	2	100	0.0		
37	KOREAN WAR	18-Dec-1950	27-Jul-1953	952	1	200	0.2		
38	KOREAN WAR	28-May-1951	27-Jul-1953	792	1	200	0.3		
39	LIBYAN-CHADIAN WAR	05-Sep-1987	07-Sep-1987	3	1	70	23.9	0.0	2
40	LAKE CHAD SKIRMISHES	30-Apr-1983	11-Jul-1983	73	2	80	1.1	0.2	1
41	ANTI-DEBY RAIDS	10-Apr-1989	20-Apr-1990	376	2	0	0.0	0.5	1
42	KENG TUNG RAID	30-Jan-1950	30-Jan-1950	1	2	0	0.0		
43	CHINESE BORDER RAIDS	20-Nov-1955	14-Dec-1956	391	2	4	0.0	1.8	3
44	CHINESE BORDER RAIDS	15-Jan-1969	07-Nov-1969	297	2	0	0.0	1.5	1
45	THIRD INDO-CHINESE WAR	21-Apr-1978	15-Oct-1987	3465	2	20000	5.8		
46	FIRST INDO-CHINESE WAR	02-Sep-1945	31-Jul-1946	333	1	0	0.0		
47	SINO-INDIAN CONFLICT	07-Aug-1959	21-Oct-1959	76	2	5	0.1		
48	SINO-INDIAN WAR (Gaiwan Incident)	21-Jul-1962	22-Nov-1962	125	4	1000	8.0	0.6	1
49	INDO-PAKISTANI WAR (Sino-Indian Skirmishes)	21-Sep-1965	11-Dec-1965	82	4	10	0.1	0.8	1
50	NATU LA-CHO LA DUELS	11-Sep-1967	02-Oct-1967	22	4	40	1.8	0.9	1

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILTSO	ICOUP	ICSO	ICULT	TARGET	TLIT	TULTSO	TCOUP	TCSO	TCULT	ILDIF	CUDIF
51	China	80.0	5	1	6	151	Laos	88.2	5	0	6	160	-0.3	-0.2
52	China	34.0	2	1	6	151	Laos	58.3	2	1	6	160	-1.0	-0.2
53	China	61.8	5	1	6	151	Nepal	91.2	1	0	1	151	-1.2	0.0
54	China	71.5	5	1	6	151	Portugal	38.1	1	1	6	195	1.3	-0.7
55	China	44.9	5	1	6	151	Rep. Of Vietnam	20.5	4	1	6	160	1.0	-0.2
56	China	74.0	5	1	151	151	ROK	29.4	1	1	1	174	1.8	-0.4
57	China	74.0	5	1	151	151	ROK	29.4	1	1	1	174	1.8	-0.4
58	China	74.0	5	1	151	151	Tibet			9	6	151		0.0
59	China	63.0	5	1	6	151	Tibet			9	6	151		0.0
60	China	50.9	5	1	6	151	USSR			8	6			
61	Colombia	27.1	1	8	156	156	DPRK			9		160		-0.1
62	Colombia	27.1	1	8	156	156	DPRK			9		160		-0.1
63	Cuba	13.9	4	1	1	156	Congo	77.5	4	3	3	143	-2.6	0.2
64	Cuba	14.9	4	1	1	156	Morocco	86.2	1	1	1	143	-2.9	0.2
65	Cuba	10.8	2	1	2	156	Somalia	83.1	1	1		134	-2.9	0.4
66	Cuba	10.8	2	1	2	156	Zaire	34.1	1	2	3	143	-0.9	0.2
67	Cuba	10.8	2	1	2	156	Zaire (FNL)	34.1	1	2		143	-0.9	0.2
68	Dem. Rep. Of Vietnam	22.9	4	1	6	160	Cambodia	64.6	4	4	6	160	-1.7	0.0
69	Dem. Rep. Of Vietnam	16.0	1	1	6	160	Cambodia	59.8	4	1	6	160	-1.8	0.0
70	Dem. Rep. Of Vietnam	16.6	2	1	1	160	China	34.0	2	1	6	151	-0.7	0.2
71	Dem. Rep. Of Vietnam	16.6	2	1	1	160	China	34.0	2	1	6	151	-0.7	0.2
72	Dem. Rep. Of Vietnam	30.1	4	9	1	160	Laos	77.1	4	0	1	160	-1.9	0.0
73	Dem. Rep. Of Vietnam	16.6	2	1	1	160	Laos (Hmong)	58.3	2	1	6	160	-1.7	0.0
74	Dem. Rep. Of Vietnam	25.9	4	9	1	160	Rep. Of Vietnam	25.9	4	1	1	160	0.0	0.0
75	Dem. Rep. Of Vietnam	16.6	2	1	1	160	Thailand	12.0	2	4	6	160	0.2	0.0
76	DPRK			9		160	ROK	29.4	1	3	1	174		-0.2
77	DPRK			9		160	ROK	29.4	1	4	6	174		-0.2
78	DPRK			9		160	ROK	21.5	4	1	1	174		-0.2
79	Ecuador	17.9	2	1	2	160	Peru	21.1	2	1	2	179	-0.1	-0.3
80	Ecuador	17.0	1	1	2	160	Peru	18.0	1	1	2	179	0.0	-0.3
81	Egypt	61.8	1	1	6	143	Cyprus	11.0	1	1	6	161	2.1	-0.3
82	Egypt	51.6	1	1	6	143	Iraq	40.3	1	1	6	143	0.5	0.0
83	Egypt	82.8	5	0	1	143	Israel	21.2	5	1		79	2.5	1.1
84	Egypt	78.4	5	4	1	143	Israel	18.8	5	1		79	2.4	1.1
85	Egypt	74.2	1	1	1	143	Israel	18.4	5	1		79	2.3	1.1
86	Egypt	74.2	1	1	1	143	Israel	17.9	5	1		79	2.3	1.1
87	Egypt	68.8	4	1	1	143	Israel	13.5	4	1		79	2.2	1.1
88	Egypt	65.8	4	1	6	143	Israel	12.1	1	1		79	2.2	1.1
89	Egypt	61.8	1	1	6	143	Israel	12.1	1	1		79	2.0	1.1
90	Egypt	61.8	1	1	6	143	Libya	46.1	2	3	6	143	0.6	0.0
91	Egypt	74.2	1	1	1	143	Saudi Arabia	63.8	4	0	6	143	0.4	0.0
92	Egypt	74.2	1	1	1	143	Yemen Arab Republic (Royalists)	96.2	4	4	6	143	-0.9	0.0
93	El Salvador	42.9	1	1	2	187	Honduras	47.4	4	1	2	179	-0.2	0.1
94	El Salvador	37.0	2	1	2	187	Honduras	37.7	2	4	2	179	0.0	0.1
95	Ethiopia	95.8	1	0	1	134	DPRK			9		160		-0.4
96	Ethiopia	95.8	1	0	1	134	DPRK			9		160		-0.4
97	Ethiopia	95.8	1	1	3	134	Somalia	83.1	1	0	3	134	0.5	0.0
98	Ethiopia	95.8	1	1	3	134	Somalia	83.1	1	1	3	134	0.5	0.0
99	Ethiopia	95.8	1	3	3	134	Somalia	83.1	1	1	3	134	0.5	0.0
100	Ethiopia	73.4	2	1	4	134	Somalia	75.9	1	2	4	134	-0.4	0.0



Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	FATAL	NORMAL	RATIO	RCODE
51	FIRST INDO-CHINESE WAR	02-Sep-1945	25-Apr-1946	236	1	0	0.0		
52	THIRD INDO-CHINESE WAR	07-Mar-1979	20-Mar-1982	1110	2	100	0.1		
53	MUSTANG INCIDENT	28-Oct-1960	28-Oct-1960	1	2	0	0.0	0.9	1
54	MACAO BORDER DUELS	29-Jul-1952	30-Jul-1952	2	4	40	20.0		
55	PARACELS SEIZURE	19-Jan-1974	20-Jan-1974	2	1	50	25.0		
56	KOREAN WAR	25-Oct-1950	27-Jul-1953	1007	1	50000	496.5		
57	KOREAN WAR	26-Dec-1950	27-Jul-1953	945	1	500000	529.1		
58	SINO-TIBETAN CONFLICT	15-Sep-1950	09-Sep-1965	5474	2	40000	7.3		
59	GYABRIA RAID (in Nepal)	15-Apr-1959	15-Apr-1959	1	2	0	0.0		
60	SINO-SOVIET CONFLICT	02-Mar-1969	15-Mar-1969	14	2	300	21.4	0.2	1
61	KOREAN WAR	16-Jun-1951	27-Jul-1953	773	1	70	0.1		
62	KOREAN WAR	19-Jun-1951	27-Jul-1953	770	1	70	0.1		
63	CONGO MUTINY	28-Jun-1966	30-Jun-1966	3	1	0	0.0		
64	MOROCCAN-ALGERIAN WAR	27-Oct-1963	04-Nov-1963	9	1	0	0.0		
65	OGADEN WAR (in Ethiopia)	31-Dec-1977	20-Oct-1978	859	1	1000	1.5		
66	ANGOLAN CIVIL WAR	09-Jan-1976	10-Jan-1976	2	4	0	0.0		
67	ANGOLAN CIVIL WAR	04-Oct-1975	08-Aug-1988	4693	1	2000	0.4		
68	SECOND INDOCHINESE WAR	29-Mar-1970	17-Apr-1975	1846	1	500	0.3		
69	THIRD INDO-CHINESE WAR	15-Jun-1977	26-Sep-1989	4487	3	50000	11.1		
70	THIRD INDO-CHINESE WAR	04-May-1977	04-May-1977	1	2	0	0.0		
71	THIRD INDO-CHINESE WAR	25-Aug-1978	15-Oct-1987	3339	2	500	0.1		
72	SECOND INDO-CHINESE WAR	23-Dec-1958	23-Aug-1975	6088	1	1000	0.2		
73	THIRD INDO-CHINESE WAR	04-Dec-1976	30-Dec-1986	3679	1	500	0.1		
74	SECOND INDO-CHINESE WAR	18-Nov-1965	30-Apr-1975	3451	1	150000	43.5		
75	THIRD INDO-CHINESE WAR	04-Mar-1979	15-Oct-1987	3148	2	500	0.2		
76	KOREAN WAR	26-Jan-1949	27-Jul-1953	1644	2	300000	182.5		
77	KOREAN CONFLICT	05-Sep-1952	03-Nov-1963	425	2	20	0.0		
78	KOREAN RAIDS	13-Oct-1965	18-Sep-1971	2167	2	500	0.2		
79	QUALQUIZA RAIDS	16-Jan-1978	17-Jan-1978	2	2	0	0.0	1.1	1
80	CORRIENTES INCIDENT	15-Jan-1984	15-Jan-1984	1	2	1	1.0	1.1	1
81	LARNACA AIRPORT RAID	19-Feb-1978	19-Feb-1978	1	2	20	20.0	0.3	1
82	GULF WAR	24-Feb-1991	28-Feb-1991	5	1	20	4.0	1.1	2
83	PALESTINE WAR	15-May-1948	06-Jan-1949	237	1	2000	8.4		
84	EGYPTIAN REPRISALS	25-Mar-1954	25-Mar-1954	1	2	0	0.0	0.3	1
85	EGYPTIAN REPRISALS	21-Jan-1955	09-Apr-1955	73	2	3	0.0	0.3	1
86	SUEZ WAR (GAZA SHELLING)	05-Apr-1956	06-Apr-1956	2	4	0	0.0	0.2	1
87	WAR OF ATTRITION	14-Jul-1967	07-Aug-1970	1121	4	1000	0.9	0.2	1
88	CANAL CONFLICT	29-Mar-1971	29-Mar-1971	1	4	0	0.0	0.2	1
89	YOM KIPPUR WAR (PLAN BADR)	06-Oct-1973	16-Jan-1974	105	1	4000	38.1	0.2	1
90	LIBYAN BORDER CLASH	16-Jul-1977	25-Jul-1977	10	2	50	5.0	0.0	2
91	YEMENI CIVIL WAR	02-Nov-1962	12-May-1967	1653	3	0	0.0	0.2	1
92	YEMENI CIVIL WAR	04-Oct-1962	16-Oct-1967	1839	1	1000	0.5		
93	FOOTBALL WAR	08-Jul-1969	29-Jul-1969	22	2	200	9.1	1.6	1
94	SALVADORAN RAIDS (Sazalpa Raids)	14-Jul-1976	31-Jul-1976	18	2	2	0.1	1.5	1
95	KOREAN WAR	06-May-1951	27-Jul-1953	814	1	60	0.1		
96	KOREAN WAR	19-Aug-1951	27-Jul-1953	709	1	60	0.1		
97	OGADEN RAIDS	14-Aug-1960	02-Jan-1961	142	2	20	0.1	0.2	1
98	OGADEN SKIRMISHES	12-Jan-1964	09-Apr-1964	89	3	30	0.3	0.3	1
99	OGADEN WAR	16-Aug-1977	01-Jan-1985	2696	3	100	0.0	0.3	1
100	TODGHARE ATTACK	12-Feb-1987	12-Feb-1987	1	2	0	0.0		

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILITSO	ICOU	ICSO	ICULT	TARGET	TLIT	TLITSO	TCOU	TCSO	TCULT	ILDIF	CUDIF
101	Ethiopia	95.8	1	3	3	134	Yemen People's Republic (All Factions)	76.4	4	4	6	143	0.8	-0.2
102	France	1.0	3	1	6	126	Algeria (FLN)	81.2	1	8	6	143	-3.2	-0.3
103	France	1.0	3	1	6	126	Algeria (FLN)	81.2	1	8	6	143	-3.2	-0.3
104	France	1.0	3	1	6	126	Algeria (FLN)	81.2	1	4	4	143	-3.2	-0.3
105	France	1.0	3	1	6	126	Algeria (FLN)	81.2	1	4	4	143	-3.2	-0.3
106	France	1.0	3	1	6	126	Cambodia	81.2	5	1	6	160	-3.3	-0.6
107	France	1.0	3	1	6	126	Cameroon (UPC)	87.6	5	8	6	151	-3.5	-0.4
108	France	1.0	3	1	6	126	Chad (FAN)	67.3	2	3	3	143	-2.7	-0.3
109	France	1.0	3	1	6	126	Chad (FROLINAT)	91.1	5	1	3	143	-3.6	-0.3
110	France	1.0	3	1	6	126	Chad (GUNT)	77.0	1	1	3	143	-3.1	-0.3
111	France	1.0	3	1	6	126	Chad (GUNT)	77.0	1	3	3	143	-3.1	-0.3
112	France	1.0	3	1	6	126	Dem. Rep. Of Vietnam	37.2	5	1	6	160	-1.5	-0.6
113	France	1.0	3	1	6	126	Djibouti	68.6	2	0	3	134	-2.7	-0.1
114	France	1.0	3	0	6	126	DPRK			9		160		-0.6
115	France	1.0	3	0	6	126	DPRK			9		160		-0.6
116	France	1.0	3	1	6	126	Egypt	76.9	5	1	1	143	-3.1	-0.3
117	France	1.0	3	1	6	126	Gabon	80.1	4	3	3	143	-3.2	-0.3
118	France	1.0	3	1	6	126	Gabon	39.3	1	2	4	143	-1.5	-0.3
119	France	1.0	3	1	6	126	Iraq	40.3	1	1	6	143	-1.6	-0.3
120	France	1.0	3	1	6	126	Iraq	40.3	1	1	6	143	-1.6	-0.3
121	France	1.0	3	1	6	126	Laos	88.2	5	0	6	160	-3.5	-0.6
122	France	1.0	3	1	6	126	Madagascar (MDRM)	48.2	5	8				-1.9
123	France	1.0	3	1	6	126	Morocco (AOL)	86.2	1	1	6	143	-3.4	-0.3
124	France	1.0	3	1	6	126	Morocco (AOL)	86.2	1	1		143	-3.4	-0.3
125	France	1.0	3	1	6	126	Morocco (AOL)	86.2	1	1		143	-3.4	-0.3
126	France	1.0	3	1	6	126	Morocco (Polisario)	78.6	1	1		143	-3.1	-0.3
127	France	1.0	3	1	6	126	New Caledonia (FLNKS)	16.2	1	9			-0.6	
128	France	1.0	3	1	6	126	Rep. Of Vietnam (Vietminh)	37.8	5	1	6	160	-1.5	-0.6
129	France	1.0	3	1	6	126	Rwanda	49.8	1	1	4	143	-2.0	-0.3
130	France	1.0	3	1	6	126	Somalia (FLCS)	83.1	1	1	3	134	-3.3	-0.1
131	France	1.0	3	1	6	126	Thailand (Vietminh)	40.7	5	1	6	160	-1.6	-0.6
132	France	1.0	3	1	6	126	Tunisia (Neo-Destour)	98.3	5	0	6	143	-3.9	-0.3
133	France	1.0	3	1	6	126	Tunisia (Youssefists)	91.8	5	0	6	143	-3.7	-0.3
134	France	1.0	3	1	6	126	Vanuatu (Stevens Secessionists)	47.1	1	9			-1.9	
135	France	1.0	3	1	6	126	Zaire	28.0	2	3	4	143	-1.1	-0.3
136	France	1.0	3	1	6	126	Zaire (FNLC)	34.1	1	2	3	143	-1.3	-0.3
137	Greece	19.6	1	9	6	166	DPRK			9		160		0.1
138	Greece	19.6	1	9	6	166	DPRK			9		160		0.1
139	Greece	19.6	1	0	6	166	Turkey	61.9	1	3		155	-1.7	0.2
140	Greece	15.6	1	4	6	166	Turkey	39.7	1	1	6	155	-1.0	0.2
141	Guinea-Bissau	63.5	1	1	4	151	Senegal	61.7	1	1	4	151	0.1	0.0
142	Guinea	69.0	2	1	5	151	Sierra Leone	73.1	2	1	4	151	-0.2	0.0
143	Guyana	6.4	1	9	6	158	Suriname	16.4	1	8		158	-0.3	0.0
144	Honduras	47.4	4	1	2	179	El Salvador	42.9	1	1	2	187	0.2	-0.1
145	Honduras	32.0	1	1	2	179	El Salvador (FMLN)	32.7	1	1	2	187	0.0	-0.1
146	Honduras	57.8	5	0	1	179	Nicaragua	47.2	5	1	1	171	0.4	0.1
147	Honduras	37.7	2	1	2	179	Nicaragua	13.0	1	1	2	171	1.0	0.1
148	Honduras	32.0	1	1	2	179	Nicaragua	13.0	1	1	2	171	0.8	0.1
149	Honduras	32.0	1	1	2	179	Nicaragua	37.5	2	1	2	171	-0.2	0.1
150	Honduras	32.0	1	1	2	179	Nicaragua	37.5	2	1	2	171	-0.2	0.1

Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	IFATAL	NORMAL	RATIO	RCODE
101	ISMAIL'S COUP	26-Jun-1978	03-Jul-1978	8	1	0	0.0		
102	ALGERIAN WAR (in Algeria)	02-Nov-1954	30-Jun-1962	2798	1	15000	5.4	5.1	3
103	ALGERIAN WAR (in Libya)	15-Oct-1957	15-Oct-1957	1	2	0	0.0	4.6	3
104	ALGERIAN WAR (in Tunisia)	15-Sep-1958	15-Mar-1962	1278	2	40	0.0	4.6	3
105	ALGERIAN WAR (in Morocco)	16-Apr-1960	28-Jan-1962	651	3	0	0.0	3.4	1
106	FIRST INDO-CHINESE WAR	12-Oct-1945	17-Oct-1953	2928	1	100	0.0		
107	BAMILEKE REVOLT	19-Dec-1956	10-Jun-1960	1270	1	30	0.0		
108	CHADIAN CIVIL WAR (I)	28-Apr-1978	17-May-1980	751	1	9	0.0	18.0	1
109	CHADIAN CIVIL WAR (I)	28-Aug-1968	15-Jun-1972	1388	1	60	0.0	12.7	1
110	LIBYAN-CHADIAN WAR	13-Aug-1983	10-Nov-1984	456	1	9	0.0	39.8	1
111	LIBYAN-CHADIAN WAR	16-Feb-1966	04-Jan-1987	323	3	0	0.0	32.3	1
112	FIRST INDO-CHINESE WAR	15-Mar-1946	11-Aug-1954	3072	1	60000	19.5		
113	DJIBOUTI CONFLICT	04-Feb-1978	30-Dec-1977	686	1	0	0.0	6.5	1
114	KOREAN WAR	19-Jan-1951	27-Jul-1953	921	1	100	0.1		
115	KOREAN WAR	27-May-1951	27-Jul-1953	793	1	100	0.1		
116	SUEZ WAR	31-Oct-1956	16-Nov-1956	17	3	10	0.6	7.1	1
117	AUBAME'S COUP	18-Feb-1964	15-Apr-1964	58	1	2	0.0	2.9	1
118	GABONESE RIOTS	24-May-1990	31-May-1990	8	1	0	0.0	3.5	1
119	GULF WAR	17-Jan-1991	28-Feb-1991	43	3	0	0.0	22.5	2
120	GULF WAR	24-Jan-1991	28-Feb-1991	36	3	2	0.1	22.5	2
121	FIRST INDO-CHINESE WAR	14-Sep-1945	23-Jul-1954	3235	1	5000	1.5		
122	MADAGASCAN WAR	29-Mar-1947	07-Dec-1947	254	1	400	1.6		
123	MOROCCAN WAR	07-Dec-1962	23-May-1968	1994	1	500	0.3	4.5	1
124	WESTERN SAHARAN REVOLT (in Mauritania)	12-Jan-1957	01-Mar-1958	414	1	30	0.1	6.8	1
125	WESTERN SAHARAN REVOLT (in Spanish Sal	20-Feb-1957	25-Feb-1958	371	2	7	0.0	6.8	1
126	POLISARIO WAR (in Mauritania)	02-Dec-1977	05-May-1978	155	3	0	0.0	6.2	1
127	KANAK REBELLION	30-Apr-1988	05-May-1988	6	5	2	0.3		
128	FIRST INDO-CHINESE WAR	20-Sep-1945	23-Jul-1954	3229	1	10000	3.1		
129	TUTSI INVASION	04-Oct-1990	22-Jan-1991	111	1	0	0.0	55.4	2
130	LOYODA RAID	04-Feb-1976	04-Feb-1976	1	2	0	0.0	14.3	1
131	FIRST INDO-CHINESE WAR	24-May-1946	10-Oct-1946	140	2	3	0.0		
132	NEO-DESTOUR DISORDERS	20-Jan-1952	01-Dec-1954	1047	1	100	0.1		
133	YOUSSEFIST REBELLION	01-Jan-1956	17-Jul-1958	929	1	20	0.0		
134	VEMARANA SECESSION	24-Jul-1980	18-Aug-1980	26	1	0	0.0		
135	KINSHASA RIOTS	24-Sep-1991	30-Oct-1991	37	1	0	0.0	113.1	2
136	KOLWEZI RESCUE	20-May-1978	15-Jun-1978	27	1	4	0.1	21.9	1
137	KOREAN WAR	09-Dec-1950	27-Jul-1953	962	1	90	0.1		
138	KOREAN WAR	01-Jun-1951	27-Jul-1953	788	1	90	0.1		
139	CYPRIOI CIVIL WAR (Cyprus)	25-Dec-1963	09-Aug-1964	229	1	2	0.0	1.4	1
140	TURCO-CYPRIOI WAR	20-Jul-1974	30-Jul-1974	11	1	0	0.0	1.9	1
141	CASHEU DISPUTE	18-May-1990	21-May-1990	4	4	0	0.0	0.6	1
142	NPFL INVASION	12-Apr-1991	01-Dec-1991	234	1	0	0.0	0.8	1
143	NEW RIVER TRIANGLE	19-Aug-1969	19-Aug-1969	1	2	0	0.0	0.6	1
144	FOOTBALL WAR	14-Jul-1969	18-Jul-1969	5	3	0	0.0	0.6	1
145	SALVADORAN CIVIL WAR	01-Jul-1982	10-Jul-1982	10	1	9	0.9	0.8	1
146	MOCORAN SEIZURE	04-May-1957	05-May-1957	2	3	0	0.0	0.6	1
147	CONTRA WAR	03-May-1981	05-May-1981	3	4	0	0.0	0.8	1
148	CONTRA WAR	03-Jun-1983	14-Jun-1983	12	4	0	0.0	0.7	1
149	CONTRA WAR	13-Sep-1985	13-Sep-1985	1	3	0	0.0	0.8	1
150	CONTRA WAR (Las Vegas Occupation)	06-Dec-1986	07-Dec-1986	2	3	0	0.0	0.8	1

Table A1. The Dataset

NUM	INTERVEN	ILIT	LIISO	ICOUP	ICSO	ICULT	TARGET	TLIT	TLISO	TCOUP	TCISO	TCULT	LDIF	CUDIF
151	Honduras	32.0	1	1	2	179	Nicaragua	36.0	2	1	2	171	-0.2	0.1
152	India	72.2	1	0	6	99	China	59.4	5	1	6	151	0.5	-0.9
153	India	72.2	1	0	6	99	China	58.8	5	1	6	151	0.7	-0.9
154	India	68.5	4	0	6	99	China	53.4	5	1	6	151	0.6	-0.9
155	India	59.2	2	0	6	99	China	34.0	2	1	6	151	1.0	-0.9
156	India	82.7	5	0	6	99	Kashmir (Azad Kashmir)			9		99		0.0
157	India	82.0	5	0	6	99	Pakistan	95.2	5	0	1	147	-0.5	-0.8
158	India	72.2	1	0	6	99	Pakistan	84.6	1	1	6	147	-0.5	-0.8
159	India	72.2	1	0	6	99	Pakistan	84.6	1	1	6	147	-0.5	-0.8
160	India	72.2	1	0	6	99	Pakistan	84.6	1	1	1	147	-0.5	-0.8
161	India	72.2	1	0	6	99	Pakistan	84.6	1	1	1	147	-0.5	-0.8
162	India	68.5	4	0	6	99	Pakistan	82.0	5	1	1	147	-0.5	-0.8
163	India	65.9	1	0	6	99	Pakistan	79.3	1	1	6	147	-0.5	-0.8
164	India	59.2	1	0	6	99	Pakistan	69.0	1	1	6	147	-0.4	-0.8
165	India	72.2	1	0	6	99	Portugal	38.1	1	1	6	195	1.4	-1.6
166	Indonesia	61.0	1	1	1	152	Malaysia	48.4	5	0	6	150	0.5	0.0
167	Indonesia	61.0	1	1	1	152	Netherlands	1.0	3	0		83	2.4	1.2
168	Iran	69.7	4	1	6	119	Iraq	65.9	4	3	5	143	0.2	-0.4
169	Iran	63.5	1	1	6	119	Iraq	59.6	2	3	6	143	0.2	-0.4
170	Iran	63.5	1	1	6	119	Kuwait	32.5	1	0	6	143	1.3	-0.4
171	Iran	52.3	1	1	6	119	Kuwait	29.4	1	0	6	143	0.9	-0.4
172	Iran	70.4	1	1	6	119	United Arab Emirates	79.1	1	0	6	143	-0.4	-0.4
173	Iraq	65.9	4	3	6	143	Iran	69.7	4	1	6	119	-0.2	0.4
174	Iraq	59.6	2	1	6	143	Iran	63.5	1	1	6	119	-0.2	0.4
175	Iraq	95.4	5	0	1	143	Israel	21.2	5	1		79	3.0	1.1
176	Iraq	75.8	1	4	6	143	Israel	13.0	4	1		79	2.5	1.1
177	Iraq	64.6	4	3	6	143	Israel	12.1	1	1		79	2.1	1.1
178	Iraq	64.6	4	3	6	143	Israel	12.1	1	1		79	2.1	1.1
179	Iraq	40.3	1	1	6	143	Israel	3.6	4	1		79	1.5	1.1
180	Iraq	64.6	4	1	6	143	Kuwait	40.4	1	0	6	143	1.0	0.0
181	Iraq	40.3	1	1	6	143	Kuwait	27.0	1	0	6	143	0.5	0.0
182	Iraq	40.3	1	1	6	143	Saudi Arabia	37.6	1	0	6	143	0.1	0.0
183	Israel	21.2	5	0	6	79	Egypt	82.8	5	0	1	143	-2.5	-1.1
184	Israel	20.7	5	0	6	79	Egypt	81.3	5	0	1	143	-2.4	-1.1
185	Israel	19.5	5	0	6	79	Egypt	79.1	5	4	1	143	-2.4	-1.1
186	Israel	12.1	1	0	6	79	Egypt	68.8	5	1	1	143	-2.3	-1.1
187	Israel	12.1	1	0	6	79	Egypt	68.8	5	1	1	143	-2.3	-1.1
188	Israel	12.1	1	0	6	79	Egypt	65.8	5	3	6	143	-2.2	-1.1
189	Israel	12.1	1	0	6	79	Egypt	61.8	1	1	6	143	-2.0	-1.1
190	Israel	8.2	1	0	6	79	Iraq	59.6	2	3	6	143	-2.1	-1.1
191	Israel	21.2	5	0	6	79	Jordan	83.2	5	0	6	143	-2.5	-1.1
192	Israel	21.2	5	0	6	79	Jordan	80.1	5	0	6	143	-2.4	-1.1
193	Israel	15.8	1	0	6	79	Jordan	67.6	1	0	6	143	-2.1	-1.1
194	Israel	15.8	1	0	6	79	Jordan	67.6	1	2	6	143	-2.1	-1.1
195	Israel	15.8	1	0	6	79	Jordan	67.6	1	1	6	143	-2.1	-1.1
196	Israel	12.1	1	0	6	79	Jordan	53.5	4	1	6	143	-2.2	-1.1
197	Israel	21.2	5	0	6	79	Lebanon	53.8	5	0	1	143	-1.3	-1.1
198	Israel	21.2	5	0	6	79	Syria	85.3	5	0	1	143	-2.6	-1.1
199	Israel	20.0	5	0	6	79	Syria	81.8	5	4	1	143	-2.5	-1.1
200	Israel	18.8	5	0	6	79	Syria	78.2	5	4	1	143	-2.4	-1.1



Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	IFATAL	NORMAL	RATIO	RCODE
151	CONTRA WAR	17-Mar-1988	19-Mar-1988	3	3	0	0.0	1.0	1
152	SINO-INDIAN WAR	20-Jul-1962	22-Nov-1962	126	2	2000	15.9	1.7	1
153	INDO-PAKISTANI WAR	21-Sep-1965	11-Dec-1965	82	4	3	0.0	1.3	1
154	NATU LA-CHO LA DUELS	11-Sep-1967	02-Oct-1967	22	2	80	3.6	1.2	1
155	ARUNACHAL PRADESH	20-Oct-1975	20-Oct-1975	1	2	4	4.0	1.1	1
156	KASHMIRI WAR	26-Oct-1947	01-Jan-1949	434	1	2000	4.6		
157	KASHMIRI WAR	20-Aug-1948	13-Nov-1948	86	3	0	0.0		
158	RANN KUTCH CONFLICT	19-Feb-1956	19-Mar-1956	30	2	4	0.1	1.1	1
159	SURMA RIVER SKIRMISHES	04-Jun-1958	26-Aug-1958	84	2	6	0.1	1.2	1
160	TRIPURA SKIRMISHES	27-Sep-1962	17-Oct-1962	21	2	0	0.0	1.1	1
161	INDO-PAKISTANI WAR	27-Dec-1964	19-Nov-1965	328	2	2000	6.1	1.1	1
162	KASHMIRI RAID	19-May-1967	19-May-1967	1	2	2	2.0	0.8	1
163	BENGALI CIVIL WAR	29-Apr-1971	17-Nov-1972	569	4	2000	3.5	0.8	1
164	SIACHEN GLACIER	08-Jun-1984	21-Aug-1990	2266	2	100	0.0	0.8	1
165	GOA DEFENSE (in Portuguese India)	17-Dec-1961	18-Dec-1961	2	1	20	10.0	0.4	1
166	CONFRONTATION (in Sarawak)	28-Sep-1963	06-Aug-1966	1044	2	600	0.6	0.4	1
167	WEST IRIAN CONFLICT (in West Iran)	15-Aug-1962	15-Aug-1962	633	2	100	0.2	0.1	1
168	SHATT EL-ARAB CONFLICT	14-Jan-1972	10-Feb-1975	1124	2	50	0.0	1.2	1
169	IRANI-IRAQI WAR	23-Sep-1980	20-Aug-1988	2889	3	150000	51.9	0.5	1
170	IRANI-IRAQI WAR	13-Nov-1980	01-Oct-1981	323	3	0	0.0	0.2	1
171	IRANI-IRAQI WAR	05-Sep-1987	18-Apr-1988	227	4	0	0.0	0.3	1
172	TUNBS ISLANDS SEIZURE	29-Nov-1971	29-Nov-1971	1	1	3	3.0		
173	SHATT EL-ARAB CONFLICT	02-Jun-1972	10-Feb-1975	984	2	50	0.1	0.8	1
174	IRANI-IRAQI WAR	04-Jun-1979	20-Aug-1988	3366	4	60000	17.8	1.9	1
175	PALESTINE WAR	15-May-1948	27-Mar-1949	317	1	500	1.6		
176	WAR OF ATTRITION	03-Dec-1968	10-Dec-1969	373	4	20	0.1	0.9	1
177	YOM KIPPUR WAR	08-Oct-1973	24-Oct-1973	17	3	10	0.6	0.6	1
178	YOM KIPPUR WAR (in Syria)	11-Oct-1973	24-Oct-1973	14	1	30	2.1	0.6	1
179	SCUD ATTACKS	18-Jan-1991	26-Feb-1991	40	3	0	0.0	0.1	2
180	SAMETAH SEIZURE	20-Mar-1973	04-Apr-1973	16	1	2	0.1	0.1	3
181	KUWAIT INVASION	02-Aug-1990	27-Feb-1991	210	1	20000	95.2	0.1	2
182	SCUD ATTACKS	18-Jan-1991	26-Feb-1991	40	3	30	0.8	0.1	2
183	PALESTINE WAR	22-May-1948	06-Jan-1949	230	3	200	0.9		
184	RAFAH RAID	30-Jun-1950	30-Jun-1950	1	2	0	0.0		
185	SUEZ WAR (GAZA RAIDS)	29-Aug-1953	08-Mar-1957	1288	2	200	0.2	3.4	1
186	SIX DAY WAR	05-Jun-1967	10-Jun-1967	6	1	300	50.0	4.4	1
187	WAR OF ATTRITION	14-Jul-1967	07-Aug-1970	1121	4	200	0.2	4.4	1
188	CANAL CONFLICT	18-Sep-1971	18-Sep-1971	1	4	0	0.0	5.4	1
189	YOM KIPPUR WAR	06-Oct-1973	21-Feb-1974	139	3	500	3.6	6.1	1
190	OSIRAK REACTOR RAID	07-Jun-1981	07-Jun-1981	1	3	0	0.0	1.7	1
191	PALESTINE WAR	15-Dec-1948	03-Apr-1949	110	2	100	0.9		
192	ISRAELI REPRISALS	20-Mar-1950	02-Sep-1954	1628	2	30	0.0		
193	QALQILYA RAID	27-Jul-1956	10-Oct-1956	76	4	40	0.5	3.4	1
194	MOUNT SCOPUS II	26-May-1958	26-May-1958	1	2	4	4.0	3.4	1
195	SIX DAY WAR	27-May-1965	10-Jun-1967	745	2	300	0.4	2.9	1
196	WAR OF ATTRITION	05-Nov-1967	19-Aug-1970	1019	4	100	0.1	2.6	1
197	PALESTINE WAR	22-May-1948	16-Jan-1949	240	3	200	0.8		
198	PALESTINE WAR	25-May-1948	13-Apr-1949	324	3	0	0.0		
199	SYRIA-ISRAEL CONFLICT	05-Apr-1951	05-May-1951	31	3	30	1.0		
200	KINNERET CONFLICT (I)	15-Mar-1954	15-Mar-1954	1	4	0	0.0		

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILITSO	ICOUPL	ICSO	ICULT	TARGET	TLIT	TLITSO	TCOUP	TCO	TCULT	LDIF	CUDIF
201	Israel	18.4	5	0		79	Syria	76.9	5	4	1	143	-2.4	-1.1
202	Israel	15.8	1	0		79	Syria	70.5	1	1	1	143	-2.2	-1.1
203	Israel	15.8	1	0		79	Syria	70.5	1	1	1	143	-2.2	-1.1
204	Israel	15.8	1	0		79	Syria	70.5	1	4	6	143	-2.2	-1.1
205	Israel	15.8	1	0		79	Syria	70.5	1	4	1	143	-2.2	-1.1
206	Israel	15.8	1	0		79	Syria	66.3	5	4	1	143	-2.0	-1.1
207	Israel	12.1	1	0		79	Syria	60.0	1	3	6	143	-1.9	-1.1
208	Israel	12.1	1	0		79	Syria	60.0	1	4	6	143	-1.9	-1.1
209	Israel	12.1	1	0		79	Syria	60.0	1	1	6	143	-1.9	-1.1
210	Israel	8.2	1	0		79	Syria	40.9	1	1	6	143	-1.3	-1.1
211	Israel	12.1	1	0		79	Uganda	57.2	1	3	3	143	-1.8	-1.1
212	Italy	2.9	1	0		65	Iraq	40.3	1	1	6	143	-1.5	-1.3
213	Jordan	83.2	5	1	6	143	Israel	21.2	5	1	1	79	2.5	1.1
214	Jordan	73.9	5	1	6	143	Israel	18.8	5	1	1	79	2.2	1.1
215	Jordan	67.6	1	1	6	143	Israel	17.9	5	1	1	79	2.0	1.1
216	Jordan	67.6	1	1	6	143	Israel	17.5	5	1	1	79	2.0	1.1
217	Jordan	53.5	1	1	6	143	Israel	13.5	4	1	1	79	1.6	1.1
218	Jordan	32.4	1	1	6	143	Oman (PFIQAG)				6	143		0.0
219	Jordan	67.6	1	2	6	143	Syria	70.5	1	1	1	143	-0.1	0.0
220	Jordan	49.2	4	1	6	143	Syria	60.0	1	3	6	143	-0.4	0.0
221	Kuwait	40.4	1	0	6	143	Israel	12.1	1	1	1	79	1.1	1.1
222	Kuwait	40.4	1	0	6	143	Israel	12.1	1	1	1	79	1.1	1.1
223	Laos	65.0	1	1	6	160	Cambodia	58.4	4	3	6	160	0.3	0.0
224	Laos	65.0	1	3	6	160	Thailand	12.0	2	1	6	160	2.1	0.0
225	Laos	65.0	1	3	6	160	Thailand	12.0	2	1	6	160	2.1	0.0
226	Laos	56.0	1	1	6	160	Thailand	9.3	1	1	6	160	1.9	0.0
227	Lebanon	53.8	5	0	1	143	Israel	21.2	5	1	1	79	1.3	1.1
228	Lebanon	36.6	4	1	1	143	Israel	12.1	1	1	1	79	1.0	1.1
229	Lebanon	13.9	2	1	6	143	Israel	12.1	1	1	6	79	0.1	1.1
230	Libya	46.1	2	1	6	143	Chad	67.3	2	1	3	143	-0.9	0.0
231	Libya	43.5	1	1	6	143	Chad	77.0	1	1	3	143	-1.4	0.0
232	Libya	46.1	2	3	6	143	Chad (FAN)	77.0	1	1	1	143	-1.2	0.0
233	Libya	46.1	2	3	6	143	Chad (Habre Militia)	67.3	2	1	3	143	-0.9	0.0
234	Libya	46.1	2	3	6	143	Egypt	61.8	1	1	6	143	-0.6	0.0
235	Libya	46.1	2	1	6	143	Tanzania	53.7	1	1	1	143	-0.3	0.0
236	Libya	43.5	1	3	6	143	Tunisia	49.3	1	0	6	143	-0.2	0.0
237	Luxembourg	1.0	3	9		116	DPRK			9		160		-0.7
238	Luxembourg	1.0	3	9		116	DPRK			9		160		-0.7
239	Malawi	37.7	1	1	4	143	Mozambique (Renamo)	72.4	1	1	4	143	-1.4	0.0
240	Mali	90.6	1	1	3	151	Burkina Faso	91.2	1	4	3	151	0.0	0.0
241	Mali	77.3	1	1	3	151	Burkina Faso	85.5	1	2	3	151	-0.3	0.0
242	Mauritania	66.0	1	2	4	151	Senegal	61.7	1	1	4	151	0.2	0.0
243	Mauritania	70.2	2	1	3	151	Spain	7.6	1	1	6	136	2.5	0.3
244	Mongolia	27.7	2	9		151	China	80.0	5	1	6	151	-2.1	0.0
245	Morocco	86.2	1	1	6	143	Algeria	81.2	1	1	6	143	0.2	0.0
246	Morocco	86.2	1	1	6	143	Algeria	81.2	1	1	6	143	0.2	0.0
247	Morocco	78.6	1	3	6	143	Israel	12.1	1	1	1	79	2.7	1.1
248	Morocco	78.6	1	1	6	143	Spain	7.6	1	1	6	143	2.9	0.0
249	Morocco	71.1	2	1	6	143	Zaire (FNLG)	34.1	1	2	3	143	1.5	0.0
250	Mozambique	72.8	2	3	3	143	Zimbabwe	24.7	2	0	3	143	1.9	0.0

Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MIOPS	IFATAL	NORMAL	RATIO	RCODE
201	KINNERET CONFLICT (I)	22-Oct-1955	11-Dec-1955	51	2	6	0.1		
202	BORDER SHELLING	09-Jul-1957	03-Dec-1958	513	4	0	0.0		
203	BEIT KATZIR CONFLICT	31-Jan-1960	12-Feb-1960	13	2	5	0.4	2.2	1
204	KINNERET CONFLICT (II)	16-Mar-1962	17-Mar-1962	2	2	5	2.5	2.1	1
205	EL DOUGA RAID	09-Jun-1963	09-Jun-1963	1	3	0	0.0	2.6	1
206	SIX DAY WAR	06-Jul-1964	10-Jun-1967	1070	4	100	0.1	2.1	1
207	WAR OF ATTRITION	24-Feb-1969	27-Jun-1970	489	3	50	0.1	2.5	1
208	GOLAN CONFLICT	01-Mar-1972	08-Jan-1973	314	3	5	0.0	2.4	1
209	YOM KIPPUR WAR	06-Oct-1973	06-Jun-1974	244	3	300	1.2	2.8	1
210	BEIRUT OFFENSIVE	09-Jun-1982	09-Jun-1982	1	3	0	0.0	1.8	1
211	ENTEBBE AIRPORT RAID	03-Jul-1976	03-Jul-1976	1	2	2	2.0	12.2	1
212	GULF WAR	18-Jan-1991	28-Feb-1991	42	3	1	0.0	18.7	2
213	PALESTINE WAR	26-Apr-1948	03-Apr-1949	343	1	1000	2.9		1
214	BATTIR INCIDENT	28-Nov-1954	28-Nov-1954	1	2	4	4.0	0.3	1
215	QALQILYA RAID	24-Jul-1956	11-Oct-1956	80	2	40	0.5	0.3	1
216	MOUNT SCOPUS I	22-Aug-1957	22-Aug-1957	1	2	1	1.0	0.3	1
217	WAR OF ATTRITION	05-Nov-1967	21-Jan-1970	809	4	100	0.1	0.4	1
218	DHOFAR REBELLION	27-Feb-1975	21-Sep-1975	207	1	0	0.0	0.3	1
219	UAR UNION CONFLICT	14-Apr-1969	23-Apr-1969	10	2	0	0.0		1
220	PLO-JORDANIAN WAR	20-Sep-1970	20-Sep-1970	1	2	0	0.0	0.6	1
221	YOM KIPPUR WAR (in Syria)	11-Oct-1973	24-Oct-1973	14	4	0	0.0	4.0	2
222	YOM KIPPUR WAR (in Egypt)	16-Oct-1973	28-Oct-1973	13	1	10	0.8	4.0	2
223	THIRD INDO-CHINESE WAR	15-Mar-1979	15-Aug-1980	520	1	0	0.0		
224	MEKONG RIVER SHELLING	17-Nov-1975	17-Nov-1975	1	4	0	0.0		
225	THIRD INDO-CHINESE WAR	17-May-1976	17-Oct-1976	154	2	0	0.0		
226	THIRD INDO-CHINESE WAR	15-Apr-1984	19-Feb-1988	1406	2	100	0.1	0.5	1
227	PALESTINE WAR	15-May-1948	30-Oct-1948	169	1	500	3.0		
228	LEBANESE SHELLING	02-Jan-1969	02-Jan-1969	1	4	0	0.0	0.4	3
229	LEBANESE SHELLING	13-Jan-1975	18-Jan-1975	6	4	0	0.0		
230	CHADIAN CIVIL WAR (I)	26-Jun-1979	30-Jul-1979	35	1	60	1.7	96.4	2
231	LIBYAN-CHADIAN WAR	31-Jul-1983	11-Sep-1987	1504	3	2000	1.3	59.3	2
232	CHADIAN CIVIL WAR (II) (in Sudan)	10-Sep-1981	13-Oct-1981	34	3	0	0.0	81.4	2
233	CHADIAN CIVIL WAR (II)	26-Apr-1980	15-Nov-1981	589	1	300	0.5	103.5	2
234	LIBYAN BORDER CLASH	16-Jul-1977	25-Jul-1977	10	2	30	3.0	22.9	2
235	TANZANIAN-UGANDAN WAR (in Uganda)	09-Mar-1979	07-Apr-1979	30	1	200	6.7		
236	LIBYAN-TUNISIAN STRIFE	08-May-1984	15-May-1984	8	2	0	0.0	6.4	2
237	KOREAN WAR	31-Jan-1951	27-Jul-1953	909	1	0	0.0		
238	KOREAN WAR	01-Jun-1951	27-Jul-1953	788	1	0	0.0		
239	RENAMO INSURGENCY	15-Apr-1987	15-Dec-1991	1706	1	4	0.0	0.7	1
240	AGACHER RAIDS	14-Dec-1974	16-Dec-1974	3	2	0	0.0	1.1	1
241	AGACHER BATTLE	25-Dec-1985	30-Dec-1985	6	1	30	5.0	1.1	1
242	MAURITANIA-SENEGAL	09-Jan-1990	02-Mar-1991	418	4	0	0.0	0.7	1
243	POLISARIO WAR (in Spanish Sahara)	10-Dec-1975	05-Aug-1979	1335	1	1000	0.7	0.1	1
244	PEITASHAN AFFAIR	05-Jun-1947	15-Jul-1948	407	1	30	0.1		
245	TINDOUF RAIDS	14-Oct-1962	18-Oct-1962	5	2	0	0.0	1.0	3
246	MOROCCAN-ALGERIAN WAR	14-Oct-1963	04-Nov-1963	22	1	100	4.5	0.8	3
247	YOM KIPPUR WAR (in Syria)	11-Oct-1973	24-Oct-1973	14	1	50	3.6	0.2	1
248	POLISARIO WAR (in Spanish Sahara)	31-Oct-1975	06-Sep-1991	5790	1	8000	1.4	0.2	1
249	FIRST SHABA INVASION	08-Apr-1977	22-May-1977	45	1	0	0.0	3.2	1
250	RHODESIAN CIVIL WAR	01-Jun-1976	01-Jun-1976	1	4	0	0.0	0.9	1

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILITSO	ICOU	ICSO	ICULT	TARGET	TLIT	TLITSO	TCOU	TCSO	TCULT	ILDIF	CUDIF
251	Netherlands	1.0	3	0	0	83	DPRK			9		160		-1.3
252	Netherlands	1.0	3	0	0	83	DPRK			9		160		-1.3
253	Netherlands	1.0	3	0	0	83	Indonesia	61.0	1	1		152	-2.4	-1.2
254	Netherlands	1.0	3	0	0	83	Indonesia (Republicans)	61.0	1	0		152	-2.4	-1.2
255	New Zealand	2.0	6	0	6	20	DPRK			9		160		-2.4
256	New Zealand	2.0	6	0	6	20	DPRK			9		160		-2.4
257	New Zealand	2.0	6	0	6	20	Indonesia	61.0	1	1		152	-2.4	-2.2
258	New Zealand	2.0	6	0	6	20	Malaysia (MPABA)	56.4	5	0	6	150	-2.2	-2.2
259	New Zealand	2.0	6	0	6	20	Rep. Of Vietnam (VC & DRV)	25.9	4	4	1	160	-1.0	-2.4
260	Nicaragua	52.6	5	4	1	171	Costa Rica (National Liberation Arm)	20.3	5	8		171	1.3	0.0
261	Nicaragua	47.2	5	1	1	171	Honduras	57.8	5	0	1	179	-0.4	-0.1
262	Nicaragua	50.4	1	1	1	171	Honduras	55.0	1	0	1	179	-0.2	-0.1
263	Nigeria	57.3	1	2	3	151	Chad	77.0	1	1	3	143	-0.8	0.1
264	Nigeria	49.3	1	2	5	151	Sierra Leone	79.3	1	1	4	151	-1.2	0.0
265	Oman			1	6	143	Iraq	40.3	1	1	6	143		0.0
266	Oman			1	6	143	Saudi Arabia	69.8	5	0	6	143		0.0
267	Oman			4	6	143	Yemen People's Republic	83.8	5	1	6	143		0.0
268	Pakistan	69.0	1	1	6	147	Afghanistan	75.9	1	1	6	147	-0.3	0.0
269	Pakistan	84.6	1	4	1	147	Burma (Myanmar)	36.6	5	0	1	160	1.9	-0.2
270	Pakistan	93.1	5	2	6	147	India	79.9	5	0	6	99	0.5	0.8
271	Pakistan	84.6	1	1	6	147	India	72.2	1	0	6	99	0.3	0.8
272	Pakistan	84.6	1	1	6	147	India	72.2	1	0	6	99	0.5	0.8
273	Pakistan	84.6	1	1	1	147	India	72.2	1	0	6	99	0.5	0.8
274	Pakistan	84.6	1	1	1	147	India	72.2	1	0	6	99	0.5	0.8
275	Pakistan	79.3	1	1	1	147	India	68.5	4	0	6	99	0.4	0.8
276	Pakistan	59.0	1	1	6	147	India	65.9	1	0	6	99	0.5	0.8
277	Pakistan	59.0	1	1	6	147	India	55.9	1	0	6	99	0.5	0.8
278	Pakistan	95.2	5	0	1	147	Kashmir			9		99		0.8
279	Peru	45.2	5	1	1	179	Ecuador	40.7	5	1	1	160	0.2	0.3
280	Peru	18.1	1	1	2	179	Ecuador	19.8	1	1	2	160	-0.1	0.3
281	Philippines	28.1	1	8		128	DPRK			9		160		-0.5
282	Philippines	28.1	1	8		128	DPRK			9		160		-0.5
283	Portugal	29.0	1	1	1	195	Angola (MPLA)	64.3	1	1		151	-1.4	0.7
284	Portugal	36.1	1	1	6	195	Angola (MPLA, FNLA, UPA)	64.3	1	1	3	151	-1.1	0.7
285	Portugal	29.0	1	1	6	195	Angola (MPLA, FNLA, UPA)	64.3	1	1		151	-1.4	0.7
286	Portugal	36.1	1	1	6	195	China	71.5	5	1	6	151	-1.3	0.7
287	Portugal	29.0	1	1	1	195	Congo	77.5	4	1	3	143	-2.0	0.9
288	Portugal	38.1	1	1	6	195	Guinea (PAIGC)	91.4	1	1		151	-2.2	0.7
289	Portugal	38.1	1	1	6	195	Guinea (PAIGC)	91.4	1	1		151	-2.2	0.7
290	Portugal	29.0	1	1	6	195	Guinea (PAIGC)	91.4	1	2	3	151	-2.5	0.7
291	Portugal	36.1	1	1	6	195	Mozambique (FRELIMO)	92.3	1	0	3	143	-2.2	0.9
292	Portugal	29.0	1	1	6	195	Mozambique (FRELIMO)	92.3	1	0		143	-2.6	0.9
293	Portugal	29.0	1	1	6	195	Mozambique (FRELIMO)	92.3	1	0		143	-2.6	0.9
294	Qatar	25.5	4	1	6	143	Bahrain	22.6	4	2	6	143	0.1	0.0
295	Qatar	22.8	4	1	6	143	Iraq	40.3		1		143	-0.7	0.0
296	Rep. Of Vietnam	30.1	5	0	1	160	Cambodia	72.8	5	1	6	160	-1.7	0.0
297	Rep. Of Vietnam	28.9	5	0	1	160	Cambodia (VC & Cambodian Rebels)	63.9	1	2	6	160	-1.4	0.0
298	Rep. Of Vietnam	16.0	1	1	6	160	China	44.9	4	1	6	151	-1.2	0.2
299	Rep. Of Vietnam	28.3	4	0	1	160	Dem. Rep. Of Vietnam	28.3	4	1		160	0.0	0.0
300	Rep. Of Vietnam	28.3	4	0	1	160	Laos (VC & DRV)	71.7	1	4	1	160	-1.8	0.0



Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	IFATAL	NORMAL	RATIO	RCODE
251	KOREAN WAR	24-Oct-1950	27-Jul-1953	1008	1	60	0.1		
252	KOREAN WAR	27-May-1951	27-Jul-1953	793	1	60	0.1		
253	WEST IRAN CONFLICT (in West Iran)	29-Mar-1962	15-Aug-1962	140	1	0	0.0	9.8	1
254	INDONESIAN WAR	25-Oct-1945	02-Nov-1949	1470	1	400	0.3		
255	KOREAN WAR	29-Jan-1951	27-Jul-1953	911	1	20	0.0		
256	KOREAN WAR	01-Jun-1951	27-Jul-1953	788	1	20	0.0		
257	CONFRONTATION	04-Sep-1964	11-Aug-1966	707	1	0	0.0	14.0	1
258	MALAYAN INSURGENCY	31-Oct-1955	30-Jul-1960	1735	1	20	0.0	5.4	1
259	SECOND INDO-CHINESE WAR	21-Jul-1965	08-Dec-1971	2332	1	40	0.0		
260	QUESADA OCCUPATION	17-Apr-1948	21-Apr-1948	5	1	0	0.0		
261	MOCORAN SEIZURE	25-Apr-1957	05-May-1957	11	1	40	3.6	1.5	1
262	CIFUENTES INCIDENT	14-Aug-1962	14-Aug-1962	1	2	4	4.0	1.7	1
263	LAKE CHAD SKIRMISHES	02-Jun-1963	11-Jul-1963	40	2	9	0.2	4.2	1
264	NPLF INVASION	12-Apr-1991	01-Dec-1991	234	1	0	0.0	1.1	1
265	GULF WAR	24-Feb-1991	28-Feb-1991	5	1	0	0.0	6.6	2
266	BURAIMI OASIS SEIZURE	26-Oct-1955	26-Oct-1955	1	1	0	0.0		
267	DHOFAH REBELLION	05-May-1972	24-May-1972	20	3	0	0.0		
268	AFGHAN WAR	30-Sep-1985	04-Oct-1985	5	4	0	0.0		
269	TAUNGBRO RAID	21-Aug-1959	21-Aug-1959	1	2	0	0.0	2.0	1
270	KASHMIRI RAID	25-Jun-1951	25-Jun-1951	1	2	0	0.0	1.0	1
271	RANN KUTCH CONFLICT	18-Mar-1956	18-Mar-1956	1	4	10	10.0	0.9	1
272	SURMA RIVER SKIRMISHES	07-Aug-1958	26-Aug-1958	20	2	5	0.3	0.8	1
273	TRIPURA SKIRMISHES	26-Sep-1962	17-Oct-1962	22	2	0	0.0	0.9	1
274	INDO-PAKISTANI WAR	21-Feb-1964	19-Nov-1965	638	2	2000	3.1	0.9	1
275	KASHMIRI SHELLING	19-May-1967	19-May-1967	1	4	0	0.0	1.3	1
276	BENGALI CIVIL WAR	27-Apr-1971	17-Nov-1972	571	2	2000	3.5	1.2	1
277	SIACHEN GLACIER	08-Jun-1984	21-Aug-1990	2266	2	100	0.0	1.2	1
278	KASHMIRI WAR	15-Mar-1948	01-Jan-1949	293	1	0	0.0		
279	GUALINGO RAIDS	09-Aug-1951	14-Aug-1951	6	2	0	0.0	1.3	1
280	PAQUISHA INCIDENT	28-Jan-1981	02-Feb-1981	6	3	1	0.2	1.0	1
281	KOREAN WAR	19-Sep-1950	27-Jul-1953	1043	1	50	0.0		
282	KOREAN WAR	06-Nov-1950	27-Jul-1953	995	1	50	0.1		
283	ANGOLAN INSURGENCY (in Zaire)	26-Jun-1968	15-Nov-1969	508	2	0	0.0	2.7	1
284	ANGOLAN CIVIL WAR	15-Jun-1960	10-Nov-1975	5627	1	4000	0.7	2.0	1
285	ANGOLAN CIVIL WAR (in Zambia)	20-Jul-1968	25-Apr-1974	2837	2	10	0.0	2.3	1
286	MACAO BORDER DUELS	29-Jul-1952	30-Jul-1952	2	4	5	2.5		
287	ANGOLAN INSURGENCY	08-Jun-1966	08-Jun-1966	1	3	0	0.0	2.2	1
288	PAIGC INSURGENCY (in Senegal)	08-Apr-1963	08-Apr-1963	1	3	0	0.0	3.7	1
289	PAIGC INSURGENCY (in Senegal)	10-Feb-1965	12-Oct-1972	2802	2	0	0.0	4.4	1
290	PAIGC INSURGENCY	24-May-1969	04-Jun-1969	12	3	0	0.0	5.8	1
291	MOZAMBIQUE INSURGENCY	21-Oct-1964	25-Jun-1975	3900	1	4000	1.0	1.8	1
292	MOZAMBIQUE INSURGENCY (in Malawi)	29-Oct-1966	25-Apr-1974	2736	2	5	0.0	1.9	1
293	MOZAMBIQUE INSURGENCY (in Tanzania)	14-Apr-1972	14-Apr-1972	1	3	1	1.0	2.5	1
294	AL-DIBAL INCIDENT	26-Apr-1986	26-Apr-1986	1	2	0	0.0	1.8	1
295	DESERT STORM	30-Jan-1991	31-Jan-1991	2	1	1	0.5	20.8	2
296	STRUNG TRENG	25-Jun-1958	01-Jul-1958	7	1	0	0.0		
297	SECOND INDO-CHINESE WAR	03-May-1960	10-Jun-1975	5517	2	5000	0.9		
298	PARACELS SEIZURE	19-Jan-1974	19-Jan-1974	1	2	3	3.0		
299	SECOND INDO-CHINESE WAR	30-Jun-1961	30-Apr-1975	5053	2	100	0.0		
300	SECOND INDO-CHINESE WAR	12-Aug-1961	30-Apr-1975	5010	2	3000	0.6		

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILITSO	ICOU	ICSO	ICULT	TARGET	TLIT	TLITSO	TCOU	TCSO	TCULT	ILDIF	CUDIF
301	ROK	29.4	1	3	1	174	DPRK		9			160		0.2
302	ROK	12.4	1	1	1	174	DPRK		9			160		0.2
303	ROK	6.2	2	1	6	174	DPRK		9			160		0.2
304	ROK	21.5	4	1	1	174	Rep. Of Vietnam (VC & DRV)	25.9	4	4	1	160	-0.2	0.2
305	Saudi Arabia	37.6	1	0	6	143	Iraq	40.3	1	1	6	143	-0.1	0.0
306	Saudi Arabia	75.8	5	0	6	143	Iraq	15.8	1	1		79	2.2	1.1
307	Saudi Arabia	54.3	4	0	6	143	Israel	12.1	1	1		79	1.7	1.1
308	Saudi Arabia	56.9	4	0	6	143	Yemen Arab Republic	86.3	5	1	6	143	-1.2	0.0
309	Senegal	94.4	1	1	3	151	Gambia	94.0	1	1	3	151	0.0	0.0
310	Senegal	94.4	1	1	3	151	Gambia	94.0	1	1	3	151	0.0	0.0
311	Senegal	67.9	1	1	3	151	Gambia (Sanyang Rebels)	79.9	1	3	3	151	-0.5	0.0
312	Senegal	61.7	1	1	4	151	Guinea-Bissau	63.5	1	1	4	151	-0.1	0.0
313	Senegal	61.7	1	1	4	151	Mauritania	66.0	1	2	4	151	-0.2	0.0
314	Somalia	83.1	1	3	3	134	Ethiopia	95.8	1	1	3	134	-0.5	0.0
315	Somalia	83.1	1	1	3	134	Ethiopia	37.6	2	3	3	134	1.8	0.0
316	Somalia	83.1	1	1	3	134	Ethiopia	37.6	1	1	3	134	1.8	0.0
317	Somalia	83.1	1	1	3	134	Kenya	52.9	1	1	3	134	1.2	0.0
318	Somalia	75.9	1	2	4	134	Kenya	31.0	1	1	4	134	1.8	0.0
319	South Africa	24.3	2	0	6	56	Angola	64.3	1	1	3	151	-1.6	-1.6
320	South Africa	43.0	1	0	6	56	DPRK		9			160		-1.8
321	South Africa	43.0	1	0	6	56	DPRK		9			160		-1.8
322	South Africa	24.3	2	0	6	56	Namibia (SWAPO)	61.6	1	9		143	-1.5	-1.5
323	South Africa	24.3	2	0	6	56	Namibia (SWAPO)	61.6	1	9		143	-1.5	-1.5
324	South Africa	24.3	2	0	6	56	Namibia (ZANU)	61.6	1	9		143	-1.5	-1.5
325	South Africa	24.3	2	0	6	56	Zimbabwe (ZANU)	24.7	2	0	3	143	0.0	-1.5
326	Spain	13.3	1	0	6	136	Morocco	86.2	1	1	6	143	-2.9	-0.1
327	Spain	7.6	1	0	6	136	Morocco	78.6	1	3		143	-2.9	-0.1
328	Spain	13.3	1	0	6	136	Morocco (AOL)	86.2	1	1	6	143	-2.9	-0.1
329	Spain	13.3	1	0	6	136	Morocco (AOL)	86.2	1	1	6	143	-2.9	-0.1
330	Sudan	70.1	2	3	3	134	Ethiopia	37.6	2	3	3	134	1.3	0.0
331	Sudan	72.9	1	2	4	134	Uganda	51.7	1	3	4	143	0.9	-0.2
332	Syria	35.5	1	1	6	143	Iraq	40.3	1	1	6	143	-0.2	0.0
333	Syria	35.5	1	1	6	143	Iraq	40.3	1	1	6	143	-0.2	0.0
334	Syria	85.3	5	0	1	143	Israel	21.2	5	1		79	2.6	1.1
335	Syria	81.8	5	4	1	143	Israel	20.0	5	1		79	2.5	1.1
336	Syria	78.2	5	4	1	143	Israel	18.8	5	1		79	2.4	1.1
337	Syria	70.5	1	1	1	143	Israel	15.8	1	1		79	2.1	1.1
338	Syria	70.5	1	1	1	143	Israel	15.8	1	1		79	2.2	1.1
339	Syria	70.5	1	1	1	143	Israel	15.8	1	1		79	2.2	1.1
340	Syria	70.5	1	4	1	143	Israel	15.8	1	1		79	2.2	1.1
341	Syria	60.0	1	3	6	143	Israel	12.1	1	1		79	1.9	1.1
342	Syria	60.0	1	4	6	143	Israel	12.1	1	1		79	1.9	1.1
343	Syria	60.0	1	4	6	143	Israel	12.1	1	1		79	1.9	1.1
344	Syria	60.0	1	3	6	143	Israel	12.1	1	1		79	1.9	1.1
345	Syria	60.0	1	3	6	143	Jordan	49.2	4	1	6	143	0.4	0.0
346	Syria	70.5	1	4	1	143	Lebanon	41.5	4	3	1	143	1.2	0.0
347	Syria	46.2	2	1	6	143	Lebanon (Rebel Groups)	13.9	2	3	6	143	1.3	0.0
348	Tanzania	63.8	4	1	3	143	Burundi	100.0	5	1	3	143	-1.5	0.0
349	Tanzania	44.1	2	1	4	143	Mozambique (Renamo)	72.4	1	1	4	143	-1.1	0.0
350	Tanzania	65.2	4	2	3	143	Uganda	61.2	4	3	3	143	0.2	0.0

Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MIOPS	IFATAL	NORMAL	RATIO	RCODE
301	KOREAN WAR	26-Jan-1949	27-Jul-1953	1644	2	300000	182.5		
302	KOREAN CONFLICT	13-Apr-1967	05-Dec-1970	1333	5	10	0.0		
303	KOREAN CONFLICT	05-Aug-1976	05-Aug-1976	1	4	0	0.0		
304	SECOND INDO-CHINESE WAR	10-Oct-1965	27-Jan-1973	2687	1	4000	1.5		
305	GULF WAR	17-Jan-1991	28-Feb-1991	43	3	7	0.2	7.8	2
306	PALESTINE WAR	19-Oct-1948	20-Oct-1948	2	1	0	0.0		
307	YOM KIPPUR WAR (in Syria)	12-Oct-1973	24-Oct-1973	13	1	2	0.2	1.6	1
308	NAJRAN AIR RAIDS	14-Jan-1970	14-Jan-1970	1	3	0	0.0		
309	SENEGAL RAIDS	31-Jan-1971	31-Jan-1971	1	2	0	0.0	1.3	1
310	SENEGAL RAIDS	10-Jul-1974	24-Jul-1974	15	2	0	0.0	1.2	1
311	SANYANG COUP	31-Jul-1961	07-Aug-1961	8	1	10	1.3	1.3	1
312	CASHEU DISPUTE	18-May-1990	21-May-1990	4	4	0	0.0	1.7	1
313	MAURITANIA-SENEGAL	09-Jan-1990	02-Mar-1991	418	4	0	0.0	1.4	1
314	OGADEN SKIRMISHES	20-Nov-1963	09-Apr-1964	142	2	50	0.4	4.5	1
315	OGADEN WAR	27-Jun-1977	14-Mar-1978	261	2	8000	30.7	3.1	1
316	OGADEN RAIDS	27-May-1980	17-Jul-1980	52	2	10	0.2	2.3	1
317	OGADEN WAR	27-Jun-1977	27-Jun-1977	1	2	7	7.0	1.1	1
318	HARE-HARE INCIDENT	20-Sep-1989	20-Sep-1989	1	2	0	0.0	0.8	1
319	ANGOLAN CIVIL WAR	10-Jun-1975	31-Aug-1988	4832	2	500	0.1	4.9	1
320	KOREAN WAR	26-Nov-1950	27-Jul-1953	975	3	10	0.0		
321	KOREAN WAR	09-May-1951	27-Jul-1953	811	3	10	0.0		
322	ANGOLAN CIVIL WAR (in Angola)	11-Jul-1976	11-Jul-1976	1	2	0	0.0	0.9	1
323	ANGOLAN CIVIL WAR (in Zambia)	25-Aug-1978	27-Apr-1980	612	2	0	0.0	0.8	1
324	NAMIBIAN CONFLICT	04-Feb-1972	26-Apr-1989	6292	1	500	0.1	0.9	1
325	RHODESIAN CIVIL WAR	30-Nov-1979	30-Jan-1980	62	1	0	0.0	2.8	1
326	WESTERN SAHARAN REVOLT (in Morocco)	26-Nov-1957	28-Nov-1957	3	3	0	0.0	3.7	1
327	POLISARIO REVOLT (in Spanish Sahara)	26-Jan-1974	08-Jan-1976	713	1	20	0.0	5.1	1
328	WESTERN SAHARAN REVOLT (in Iran)	10-Aug-1957	01-Mar-1958	204	1	60	0.3	3.7	1
329	WESTERN SAHARAN REVOLT (in Spanish Sah)	26-Nov-1957	01-Mar-1958	96	1	50	0.5	3.7	1
330	ERITREAN WAR (II)	10-Apr-1977	30-Jun-1977	82	4	0	0.0	24.3	1
331	MOYO RAIDS	15-Nov-1989	03-Feb-1990	81	3	0	0.0	1.5	1
332	GULF WAR (Saudi Arabia)	04-Feb-1991	04-Feb-1991	1	2	0	0.0	1.4	2
333	GULF WAR	24-Feb-1991	28-Feb-1991	5	1	0	0.0	1.4	2
334	PALESTINE WAR	15-May-1948	13-Apr-1949	334	1	1000	3.0		
335	SYRIA-ISRAEL CONFLICT	04-Apr-1951	09-May-1951	36	2	20	0.6		
336	KINNERET CONFLICT (I)	15-Mar-1954	11-Dec-1955	637	4	20	0.0		
337	BORDER SHELLING	09-Jul-1957	03-Dec-1958	513	4	0	0.0		
338	BEIT KATZIR CONFLICT	24-Jan-1960	12-Feb-1960	20	4	4	0.2	0.5	1
339	KINNERET CONFLICT (II)	01-Feb-1962	17-Mar-1962	45	4	30	0.7	0.5	1
340	SIX DAY WAR	07-Jun-1963	10-Jun-1967	1465	4	60	0.0	0.4	1
341	WAR OF ATTRITION	08-Dec-1969	27-Jun-1970	202	4	100	0.5	0.4	1
342	GOLAN CONFLICT	02-Mar-1972	02-Mar-1972	1	3	0	0.0	0.4	1
343	GOLAN CONFLICT	10-Nov-1972	08-Jan-1973	60	4	5	0.1	0.4	1
344	YOM KIPPUR WAR	06-Oct-1973	24-Oct-1973	19	1	2000	105.3	0.4	1
345	PLO-JORDANIAN WAR	19-Sep-1970	23-Sep-1970	5	1	100	20.0	1.6	1
346	UAR AGENTS CRISIS	18-Oct-1963	18-Oct-1963	1	2	0	0.0		
347	LEBANESE CIVIL WAR	09-Apr-1976	22-May-1991	5522	1	2000	0.4		
348	TUTSI-HUTU VIOLENCE	12-Jul-1973	12-Jul-1973	1	2	0	0.0	1.0	1
349	RENAMO INSURGENCY	05-Mar-1987	01-Jan-1988	303	1	30	0.1	0.7	1
350	OBOTE'S RESISTANCE	23-Aug-1971	09-Nov-1971	79	2	25	0.3	0.7	1

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILITSO	ICOU	ICSO	ICULT	TARGET	TLIT	TLITSO	TCOU	TCSO	TCULT	ILDIF	CUDIF
351	Tanzania	53.7	1	1	3	143	Uganda	57.2	1	3	3	143	-0.1	0.0
352	Thailand	32.3	1	4	1	160	Cambodia	63.9	1	1	6	160	-1.3	0.0
353	Thailand	32.3	1	1	1	160	Cambodia	63.9	1	1	6	160	-1.5	0.0
354	Thailand	21.4	1	1	6	160	Cambodia	64.6	4	4	6	160	-1.7	0.0
355	Thailand	12.0	1	4	6	160	Cambodia	59.8	4	1	6	160	-1.9	0.0
356	Thailand	9.3	1	3	6	160	Cambodia	71.2	1	1	6	160	-2.5	0.0
357	Thailand	32.3	1	1	1	160	DPRK			9		160		0.0
358	Thailand	32.3	1	1	1	160	DPRK			9		160		0.0
359	Thailand	12.0	2	1	6	160	Laos	58.3	2	3	6	160	-1.9	0.0
360	Thailand	12.0	1	4	6	160	Laos	65.0	1	1	6	160	-2.1	0.0
361	Thailand	12.0	1	4	6	160	Laos	65.0	1	1	6	160	-2.1	0.0
362	Thailand	12.0	1	1	6	160	Laos	58.3	2	1	6	160	-1.9	0.0
363	Thailand	9.3	1	1	6	160	Laos	56.0	1	1	6	160	-1.9	0.0
364	Thailand	21.4	1	1	6	160	Laos (Pathet Lao)	67.7	4	1	6	160	-1.9	0.0
365	Thailand	21.4	1	1	6	160	Laos (Pathet Lao)	66.9	4	1	6	160	-1.8	0.0
366	Thailand	21.4	1	1	1	160	Rep. Of Vietnam (VC & DRV)	24.7	4	1	1	160	-0.1	0.0
367	Tunisia	62.0	1	1	6	143	Israel	12.1	1	1		79	2.0	1.1
368	Turkey	61.9	1	0	1	155	DPRK			9		160		-0.1
369	Turkey	61.9	1	0	1	155	DPRK			9		160		-0.1
370	Turkey	54.0	1	3	1	155	Greece	19.6	1	1	6	166	1.4	-0.2
371	Turkey	39.7	1	1	6	155	Greece	15.6	1	4	6	166	1.0	-0.2
372	Uganda	53.6	2	2	3	143	Kenya	41.9	2	1	3	134	0.5	0.2
373	Uganda	61.2	4	3	3	143	Tanzania	65.2	4	2	3	143	-0.2	0.0
374	Uganda	56.4	4	3	3	143	Tanzania	53.7	1	1	3	143	0.1	0.0
375	Uganda	65.1	1	0	3	143	Zaire	34.1	1	2	3	143	1.3	0.0
376	United Arab Emirates	23.3	4	0	6	143	Iraq	40.3	1	1	6	143	-0.7	0.0
377	United Kingdom	2.0	3	0	6	1	Aden Protectorate			9		143		-2.4
378	United Kingdom	1.0	3	0	6	1	Argentina	6.1	2	1	2	119	-0.2	-2.0
379	United Kingdom	2.0	3	0	6	1	Belize (Belize Liberation Army)	13.4	1	9		179	-0.5	-3.0
380	United Kingdom	2.0	3	0	6	1	Cambodia	81.7	5	1	6	160	-3.2	-2.7
381	United Kingdom	3.0	3	0	0	1	Cyprus	24.1	1	1	6	161	-0.9	-2.7
382	United Kingdom	1.0	3	0	0	1	Cyprus	11.0	1	4		161	-0.4	-2.7
383	United Kingdom	3.0	3	0	0	1	DPRK			9		160		-2.7
384	United Kingdom	3.0	3	0	0	1	DPRK			9		160		-2.7
385	United Kingdom	2.0	3	0	6	1	Egypt	76.9	5	1	1	143	-3.0	-2.4
386	United Kingdom	2.0	3	0	6	1	Indonesia	61.0	1	0		152	-2.4	-2.6
387	United Kingdom	2.0	3	0	6	1	Indonesia	61.0	1	1	1	152	-2.4	-2.6
388	United Kingdom	2.0	3	0	6	1	Indonesia	61.0	1	1	1	152	-2.4	-2.6
389	United Kingdom	1.0	3	0	6	1	Iraq	40.3	1	1	6	143	-1.6	-2.4
390	United Kingdom	1.0	3	0	6	1	Iraq	40.3	1	1	6	143	-1.6	-2.4
391	United Kingdom	2.0	3	0	6	1	Israel (Arab Liberation Army, Zionist)	22.5	5	1		79	-0.8	-1.3
392	United Kingdom	2.0	3	0	6	1	Jamaica (Henry Guerillas)	18.1	1	9		37	-0.6	-0.6
393	United Kingdom	2.0	3	0	6	1	Kenya	80.5	1	0	3	134	-3.2	-2.2
394	United Kingdom	2.0	3	0	6	1	Malaysia (MPABA)	63.3	5	0	6	150	-2.5	-2.5
395	United Kingdom	2.0	3	0	6	1	Malaysia (SUPP, SAYA, TNKU)	48.4	5	0	6	150	-1.9	-2.5
396	United Kingdom	2.0	3	0	6	1	Malaysia (TNKU)	48.4	5	0	6	150	-1.9	-2.5
397	United Kingdom	2.0	3	0	6	1	Malaysia (TNKU)	48.4	5	0	6	150	-1.9	-2.5
398	United Kingdom	3.0	3	0	6	1	Oman (DLF, NDF)			1	6	143		-2.4
399	United Kingdom	2.0	3	0	6	1	Oman (Omani Imamate)			1	6	143		-2.4
400	United Kingdom	2.0	3	0	6	1	Rep. Of Vietnam (Vietminh)	37.8	5	1	6	160	-1.4	-2.7



Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	FATAL	NORMAL	RATIO	RCODE
351	TANZANIAN-UGANDAN WAR	09-Oct-1978	30-Jun-1981	996	4	1000	1.0	0.9	1
352	PREAH VIHEAR RAIDS	11-Aug-1962	15-Aug-1962	5	2	0	0.0		
353	PREAH VIHEAR CLASHES	17-Nov-1965	27-Apr-1966	162	2	0	0.0		
354	SECOND INDOCHINESE WAR	01-Jul-1970	23-Jul-1970	23	3	0	0.0		
355	THIRD INDOCHINESE WAR	20-Jul-1977	27-Jun-1979	708	3	5	0.0		
356	THIRD INDOCHINESE WAR	01-Apr-1983	15-Oct-1987	1659	4	50	0.0		
357	KOREAN WAR	07-Dec-1950	27-Jul-1953	964	1	60	0.1		
358	KOREAN WAR	01-Jun-1951	27-Jul-1953	788	1	60	0.1		
359	MEKONG RIVER AIR RAID	17-Nov-1975	17-Nov-1975	1	3	0	0.0		
360	THIRD INDOCHINESE WAR	03-Jan-1977	09-Feb-1977	38	4	0	0.0		
361	THIRD INDOCHINESE WAR	23-Dec-1978	24-Dec-1978	2	3	0	0.0		
362	THIRD INDOCHINESE WAR	08-Feb-1981	08-Feb-1981	1	4	0	0.0		
363	THIRD INDOCHINESE WAR	15-May-1984	19-Feb-1988	1376	2	100	0.1	1.9	1
364	SECOND INDOCHINESE WAR	23-Jun-1969	28-Jun-1969	6	1	0	0.0		
365	SECOND INDOCHINESE WAR	20-Mar-1970	27-Jan-1973	1045	1	100	0.1		
366	SECOND INDOCHINESE WAR	19-Sep-1967	15-Apr-1972	1671	1	400	0.2		
367	YOM KIPPUR WAR (in Egypt)	18-Oct-1973	28-Oct-1973	11	1	0	0.0	0.3	1
368	KOREAN WAR	12-Oct-1950	27-Jul-1953	1020	1	400	0.4		
369	KOREAN WAR	29-Nov-1950	27-Jul-1953	972	1	400	0.4		
370	CYPRIOT CIVIL WAR (in Cyprus)	25-Dec-1963	09-Aug-1964	229	1	1	0.0	0.7	1
371	TURCO-CYPRIOT WAR	20-Jul-1974	25-Oct-1974	98	1	1000	10.2	0.5	1
372	MOMBASSA PORT BOYCOTT	01-Apr-1976	18-Apr-1976	18	2	0	0.0	0.8	1
373	OBOTE'S RESISTANCE	23-Aug-1971	09-Nov-1971	79	2	50	0.6	1.5	1
374	TANZANIAN-UGANDAN WAR	09-Oct-1978	30-Mar-1979	173	2	200	1.2	1.1	1
375	CONGOLESE CIVIL WAR	15-Feb-1965	15-Feb-1965	1	2	1	1.0	1.1	1
376	GULF WAR	24-Feb-1991	28-Feb-1991	5	1	6	1.2	20.3	2
377	SOUTH ARABIAN REVOLT	15-Jun-1953	16-Oct-1959	2315	3	40	0.0		
378	FALKLANDS WAR (MALVINAS WAR)	25-Apr-1982	20-Jun-1982	57	1	300	5.3	1.9	1
379	GUATEMALAN INVASION*	21-Jan-1962	23-Jan-1962	3	2	0	0.0		
380	FIRST INDOCHINESE WAR	11-Oct-1945	07-Jan-1946	89	1	0	0.0		
381	ENOSIS MOVEMENT	10-Sep-1955	20-Feb-1959	1260	1	100	0.1	3.2	1
382	TURCO-CYPRIOT WAR	15-Jul-1974	30-Jul-1974	16	1	0	0.0	2.4	1
383	KOREAN WAR	28-Jun-1950	27-Jul-1953	1126	3	300	0.3		
384	KOREAN WAR	06-Jul-1950	27-Jul-1953	1118	3	300	0.3		
385	SUEZ WAR	31-Oct-1956	16-Nov-1956	17	3	20	1.2	8.7	1
386	FIRST INDOCHINESE WAR	30-Sep-1945	29-Nov-1946	426	1	600	1.4		
387	CONFRONTATION	30-Jul-1964	21-Nov-1965	480	2	5	0.0	12.2	1
388	CONFRONTATION (Malaysia)	11-Sep-1964	11-Aug-1966	700	1	0	0.0	12.2	1
389	GULF WAR	17-Jan-1991	15-Jul-1991	180	3	10	0.1	16.0	2
390	GULF WAR	17-Jan-1991	28-Feb-1991	43	3	10	0.2	16.0	2
391	PALESTINE WAR	28-Sep-1945	15-May-1948	961	1	200	0.2		
392	HENRY REBELLION	21-Jun-1960	27-Jun-1960	7	2	2	0.3	3.8	1
393	KENYAN ARMY MUTINY	24-Jan-1964	15-Apr-1964	83	1	0	0.0	12.2	1
394	MALAYAN INSURGENT	18-Jun-1948	30-Jul-1960	4426	1	500	0.1		
395	CONFRONTATION	15-Aug-1963	11-Aug-1966	1093	1	60	0.1	4.6	1
396	CONFRONTATION (in Brunei)	10-Dec-1962	20-Dec-1962	11	1	8	0.7	4.5	1
397	CONFRONTATION (in Sarawak)	12-Dec-1962	11-Aug-1966	1339	1	75	0.1	4.5	1
398	DHOAR REBELLION	11-Jun-1970	17-Oct-1975	1955	2	20	0.0	1.3	1
399	IMAM'S REBELLION	24-Jul-1957	09-Feb-1959	566	3	7	0.0		
400	FIRST INDOCHINESE WAR	11-Sep-1945	15-May-1946	247	1	40	0.2		

Table A1. The Dataset

NUM	INTERVEN	ILIT	ILTSO	ICOUP	ICSO	ICULT	TARGET	TLIT	TLTSO	TCOUP	TCSO	TCULT	ILDIF	CUDIF
401	United Kingdom	2.0	3	0	6	1	Tanzania	71.9	1	3	3	143	-2.8	-2.4
402	United Kingdom	2.0	3	0	6	1	Uganda	65.1	1	0	3	143	-2.5	-2.4
403	United Kingdom	1.0	3	0	6	1	Vanuatu (Stevens Secessionists)	47.1	1	9			-1.9	
404	United Kingdom	2.0	3	0	6	1	Yemen Arab Republic	100.0	5	1		143	-4.0	-2.4
405	United Kingdom	2.0	3	0	6	1	Yemen Arab Republic	100.0	5	3	6	143	-4.0	-2.4
406	United Kingdom	2.0	3	0	6	1	Yemen Arab Republic	100.0	5	1	6	143	-4.0	-2.4
407	United Kingdom	2.0	3	0	6	1	Yemen Arab Republic	100.0	5	1	6	143	-4.0	-2.4
408	United States	1.0	1	0	6	19	Cambodia	61.1	4	1	6	160	-2.4	-2.4
409	United States	1.0	1	0	6	19	Dem. Rep. Of Vietnam	71.7	1			160	-2.9	-2.4
410	United States	1.0	1	0	6	19	Dem. Rep. Of Vietnam	26.5	4	1		160	-1.0	-2.4
411	United States	1.0	1	0	6	19	Dem. Rep. Of Vietnam	63.9	1			160	-2.5	-2.4
412	United States	1.0	1	0	6	19	Dominican Rep. (Constitutionalists)	35.5	1	4	1	156	-1.3	-2.3
413	United States	1.0	1	9	6	19	DPRK		9			160	-2.4	-2.4
414	United States	1.0	1	0	6	19	DPRK		9			160	-2.4	-2.4
415	United States	1.0	1	0	6	19	DPRK		9			160	-2.4	-2.4
416	United States	1.0	1	0	6	19	DPRK		9			160	-2.4	-2.4
417	United States	1.0	1	0	6	19	Grenada	27	4	0	6	37	-0.1	-0.3
418	United States	1.0	1	0	6	19	Iran	63.5	1	9		119	-2.5	-1.7
419	United States	1.0	1	0	6	19	Iraq	40.3	1	1	6	143	-1.6	-2.1
420	United States	1.0	1	0	6	19	Iraq	40.3	1	1	6	143	-1.6	-2.1
421	United States	1.0	1	0	6	19	Iraq	40.3	1	1	6	143	-1.6	-2.1
422	United States	1.0	1	0	6	19	Libya	60.5	1	3	4	151	-2.4	-2.2
423	United States	1.0	1	0	6	19	Libya	43.5	1	3	6	143	-1.7	-2.1
424	United States	1.0	1	0	6	19	Panama	11.2	2	1	2	212	-0.4	-3.3
425	United States	1.0	1	0	6	19	Rep. Of Vietnam	16.6	2	1	6	160	-0.6	-2.4
426	United States	1.0	1	0	6	19	Rep. Of Vietnam (VC & DRV)	27.7	4	0	1	160	-1.1	-2.4
427	United States	1.0	1	0	6	19	Somalia	75.9	1	4	5	134	-3.0	-1.9
428	United States	1.0	1	0	6	19	Taiwan			0	6	151		-2.2
429	USSR						Afghanistan	81.8	1	4	6	147		
430	USSR						China	50.9	5	1	6	151		
431	USSR						Hungary	3.1	1	9				
432	USSR						Yemen People's Republic (Ali Fatio)	76.4	4	4	6	143		
433	Venezuela	23.5	1	1	2	158	Guyana	8.4	1	9		158	0.6	0.0
434	Yemen Arab Republic	87.5	4	1	6	143	Saudi Arabia	57.8	4	0	6	143	1.2	0.0
435	Yemen Arab Republic	100.0	5	1	6	143	United Kingdom	3.0	3	0		1	3.9	2.4
436	Yemen Arab Republic	100.0	5	1	6	143	United Kingdom	3.0	3	0		1	3.9	2.4
437	Yemen Arab Republic	96.2	5	4	6	143	United Kingdom	3.0	3	0		1	3.8	2.4
438	Yemen Arab Republic	83.8	5	1	6	143	Yemen People's Republic	83.8	5	1	6	143	0.0	0.0
439	Yemen Arab Republic	75.1	5	3	6	143	Yemen People's Republic	75.1	5	4	6	143	0.0	0.0
440	Yemen People's Republic	82.6	5	1	6	143	Oman			1	6	143		
441	Yemen People's Republic	87.5	5	4	6	143	Saudi Arabia	57.8	4	0	6	143	1.2	0.0
442	Yemen People's Republic	82.6	5	1	6	143	Saudi Arabia	54.3	4	0	6	143	1.1	0.0
443	Yemen People's Republic	76.4	5	1	6	143	Somalia	83.1	1	1		134	-0.3	0.2
444	Yemen People's Republic	85.1	5	1	6	143	Yemen Arab Republic	85.1	5	1	6	143	0.0	0.0
445	Yemen People's Republic	75.1	5	4	6	143	Yemen Arab Republic	75.1	5	3	6	143	0.0	0.0
446	Yugoslavia	30.1	4	1	6	202	Greece	19.6	1	1	6	166	0.4	0.6
447	Zaire	40.7	2	2	3	143	Angola	64.3	1	1	3	151	-1.0	-0.1
448	Zaire	28.0	2	3	6	143	Rwanda	45.7	2	1	4	143	-0.7	0.0
449	Zaire	34.1	1	1	3	143	Zambia	32.6	1	2	3	143	0.1	0.0
450	Zambia	27.2	1	2	4	143	Mozambique (Renamo)	67.1	1	1	4	143	-1.6	0.0

Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	IFATAL	NORMAL	RATIO	RCODE
401	TANGANYIKAN MUTINY	25-Jan-1964	13-Feb-1964	20	1	0	0.0	20.4	1
402	UGANDAN ARMY MUTINY	25-Jan-1964	01-Aug-1964	190	1	0	0.0	12.5	1
403	VEMARANA SECESSION	24-Jul-1980	18-Aug-1980	28	1	0	0.0		
404	SOUTH ARABIAN ACTIONS (in Aden Protectorate)	15-Apr-1947	06-Aug-1950	1210	3	40	0.0		
405	SOUTH ARABIAN ACTIONS	05-Mar-1948	05-Mar-1949	1	3	1	1.0		
406	SOUTH ARABIAN REVOLT	26-Mar-1955	26-Mar-1955	1	2	0	0.0		
407	SOUTH ARABIAN REVOLT	08-Jun-1956	08-Jul-1956	761	3	0	0.0		
408	SECOND INDO-CHINESE WAR	14-May-1975	15-May-1975	2	2	20	10.0		
409	SECOND INDO-CHINESE WAR (in Laos)	08-Jun-1964	15-Aug-1973	3356	3	500	0.1		
410	SECOND INDO-CHINESE WAR	04-Aug-1964	27-Jan-1973	3099	3	700	0.2		
411	SECOND INDO-CHINESE WAR (in Cambodia)	20-Sep-1966	15-Aug-1973	2522	3	500	0.2		
412	DOMINICAN CIVIL WAR	26-Apr-1965	21-Sep-1966	512	1	30	0.1	9.2	1
413	KOREAN WAR	27-Jun-1950	27-Jul-1953	1127	3	30000	26.6		
414	KOREAN WAR	30-Jun-1950	27-Jul-1953	1124	3	30000	26.7		
415	KOREAN CONFLICT	29-Jul-1963	03-Nov-1963	98	1	3	0.0		
416	KOREAN CONFLICT	18-Nov-1965	18-Oct-1969	1431	1	40	0.0		
417	GRENADA INVASION	25-Oct-1983	15-Dec-1983	52	1	20	0.4	13.7	2
418	TEHRAN RESCUE MISSION	24-Apr-1980	25-Apr-1980	2	2	8	4.0	4.5	1
419	DESERT STORM	17-Jan-1991	15-Jul-1991	180	3	100	0.6	24.9	2
420	GULF WAR	17-Jan-1991	28-Feb-1991	43	1	10	0.2	24.9	2
421	GULF WAR (in Saudi Arabia)	29-Jan-1991	30-Jan-1991	2	1	12	6.0	24.9	2
422	MONROVIA EVACUATION	05-Aug-1990	19-Aug-1990	15	1	0	0.0		
423	LIBYA RAIDS	24-Mar-1986	15-Apr-1986	23	3	2	0.1	2.9	2
424	PANAMA INVASION	20-Dec-1989	30-Apr-1990	132	1	26	0.2	6.5	1
425	SAIGON EVACUATIONS	28-Apr-1975	29-Apr-1975	2	1	0	0.0		
426	SECOND INDO-CHINESE WAR	22-Mar-1962	27-Jan-1973	3965	3	50000	12.6		
427	SOMALIA EVACUATION	05-Jan-1991	05-Jan-1991	1	2	0	0.0		
428	TACHENS EVACUATION	07-Feb-1955	11-Feb-1955	5	1	0	0.0	8.7	1
429	AFGHAN WAR	27-Dec-1979	15-Feb-1989	3339	1	15000	4.5		
430	SINO-SOVIET CONFLICT	02-Mar-1969	13-Aug-1969	165	2	100	0.6	6.2	1
431	BUDAPEST UPRISING	23-Oct-1956	27-May-1957	217	1	500	2.3		
432	ISMAIL'S COUP	26-Jun-1978	26-Jun-1978	1	5	0	0.0		
433	ESSEQUIBO SHELLING	22-Feb-1970	22-Feb-1970	1	4	0	0.0	4.3	1
434	NAJRAN AIR RAIDS	10-Nov-1969	13-Oct-1970	338	3	0	0.0		
435	SOUTH ARABIAN REVOLT (in Aden Protectorate)	10-Jun-1954	05-Sep-1954	88	2	10	0.1		
436	SOUTH ARABIAN REVOLT (in Aden Protectorate)	25-Dec-1956	29-Apr-1958	491	2	30	0.1		
437	YEMENI CIVIL WAR (in Aden Protectorate)	22-Oct-1962	29-Jul-1966	1377	3	0	0.0		
438	YEMENI CONFLICT	26-Sep-1972	18-Oct-1972	23	1	10	0.4		
439	NDF INVASION	23-Feb-1979	19-Mar-1979	25	1	10	0.4		
440	DHOFA REBELLION	03-May-1972	08-Mar-1976	1406	4	5	0.0		
441	AL-WADIAH BATTLE	26-Nov-1969	03-Dec-1969	8	1	10	1.3		
442	AL-WADIAH AIR RAID	20-Mar-1973	20-Mar-1973	1	3	0	0.0		
443	OGADEN WAR (in Ethiopia)	15-Jan-1978	12-Sep-1978	241	1	5	0.0		
444	YEMENI CONFLICT	15-Oct-1971	18-Oct-1972	370	2	10	0.0		
445	NDF INVASION	24-Feb-1979	19-Mar-1979	24	1	10	0.4		
446	GREEK CIVIL WAR	08-Sep-1948	08-Sep-1948	1	2	20	20.0		
447	ANGOLAN CIVIL WAR	15-Jul-1975	27-Feb-1976	228	2	200	0.9	0.9	1
448	TUTSI INVASION	05-Oct-1990	17-Oct-1990	13	1	0	0.0	0.6	2
449	ZAIRE-ZAMBIA BORDER	28-Feb-1982	28-Feb-1982	1	2	3	3.0	0.5	1
450	RENAMO INSURGENCY	21-May-1988	21-May-1988	1	2	0	0.0	1.0	1

Table A1. The Dataset

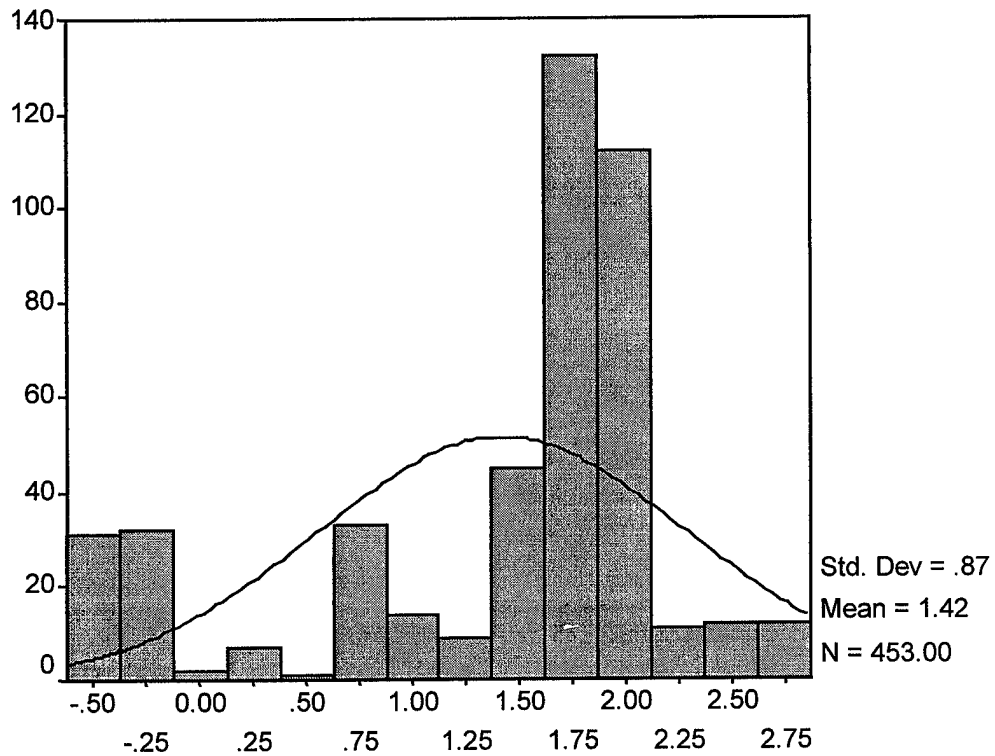
NUM	INTERVEN	ILIT	ILITSO	ICOUP	ICSO	ICULT	TARGET	TLIT	TLITSO	TCOUP	TCSO	TCULT	ILDIF	CUDIF
451	Zambia	47.5	1	0	3	143	Zimbabwe	24.7	2	0	3	143	0.9	0.0
452	Zimbabwe	24.7	2	0	3	143	Angola	64.3	1	3	3	151	-1.6	-0.1
453	Zimbabwe	24.7	2	0	3	143	Botswana	44.5	2	0	3	143	-0.8	0.0
454	Zimbabwe	37.7	1	3	3	143	Botswana	30.0	1	0	3	143	0.3	0.0
455	Zimbabwe	24.7	2	0	3	143	Mozambique	72.8	2	3	3	143	-1.9	0.0
456	Zimbabwe	24.7	2	3	3	143	Mozambique (Renamo)	72.8	1	1	3	143	-1.4	0.0
457	Zimbabwe	24.7	2	0	3	143	Zambia	47.5	1	0	3	143	-0.9	0.0



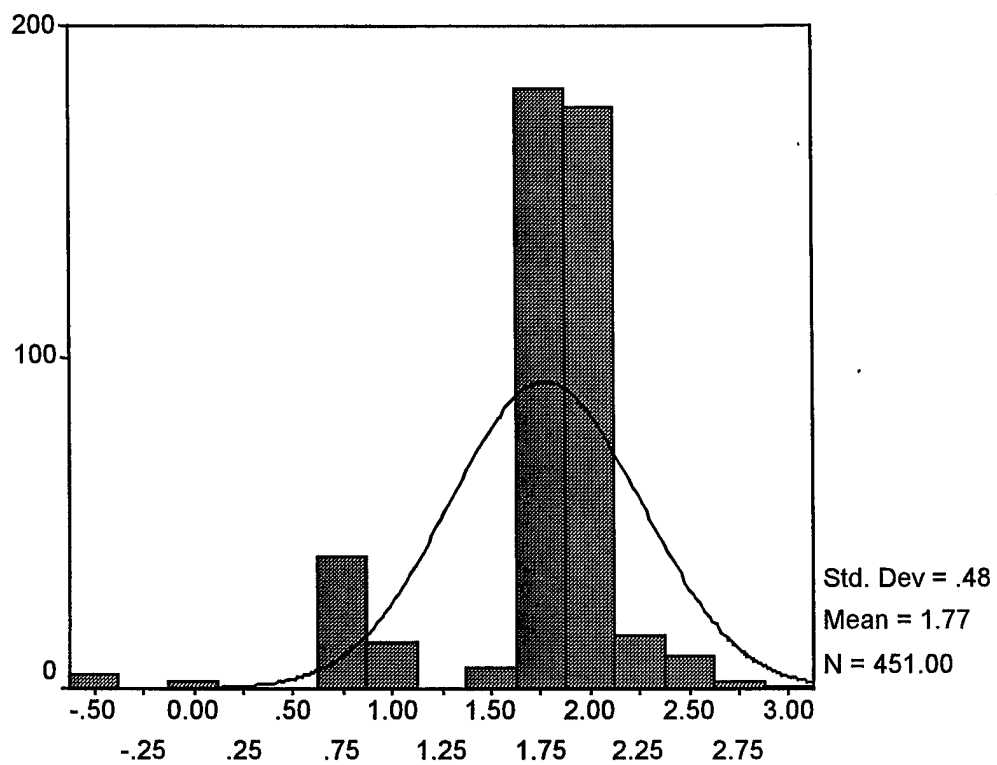
Table A1. The Dataset

NUM	NAME	DATE	ENDDATE	LENGTH	MILOPS	FATAL	NORMAL	RATIO	RCODE
451	RHODESIAN CIVIL WAR	18-May-1977	30-Oct-1977	166	4	0	0.0	0.9	1
452	RHODESIAN CIVIL WAR (ZANU)	26-Feb-1979	26-Feb-1979	1	3	0	0.0	1.8	1
453	RHODESIAN CIVIL WAR (ZANU)	14-Dec-1976	08-Aug-1979	968	2	10	0.0	0.8	1
454	MAITENGWE DISORDERS	08-Nov-1983	20-Dec-1983	43	2	1	0.0	0.7	1
455	RHODESIAN CIVIL WAR (ZANU)	07-Jan-1976	09-Dec-1979	1433	2	100	0.1	1.1	1
456	RENAMO INSURGENCY	15-Jul-1982	15-Dec-1991	3441	1	100	0.0	1.5	1
457	RHODESIAN CIVIL WAR (ZANU)	31-Aug-1977	09-Dec-1979	831	3	50	0.1	1.1	1

In Chapter 3 we referred to the distributions of culture scores for both intervenors and targets. These are listed below as Figure 1 and Figure 2.



**Figure 1. Intervenor Culture z-Score**



**Figure 2. Target Culture z-Score**

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13. ABSTRACT (Maximum 200 words) A consistent recent theme sounded by defense policymakers and commentators is the difficulty of planning under conditions of strategic uncertainty. Many worry about the challenge of economic development in potential adversaries coupled with proliferation of advanced conventional weapons. They argue that those trends could place U.S. security at risk by fostering the emergence of regional hegemons or even near-peer competitors. We argue this is not necessarily the case. This is because two often overlooked factors, civil-military relations and culturally-based organizational norms, may act to systematically constrain a recipient country's ability to attain and maintain the skill needed to take advantage of these assets. We test this hypothesis in a large- <i>n</i> study and present the implications of our findings for defense policy and analysis.					
14. SUBJECT TERMS Defense planning, advanced technology, advanced weapons systems, skill, training, readiness, intelligence collection, intelligence analysis, regional balance assessment, combat assessment, near-peer competitor, regional hegemons, human capital, economic development, economic power, national power, human development, civil-military relations, coups, regional instability, culture lag, organizational behavior, organizational culture, cultural norms, technology absorption, technological adaptation, technology assimilation, arms control, planning uncertainty, Quadrennial Defense Review, defense programming				15. NUMBER OF PAGES  106	
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